Gleanings in Bee Culture

October, 1958 Vol. 86, No. 10

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86 years continuous publication by the same organization.

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Subscription Rates: United States, Canada, Pan American countries, and Spain, one year, $2.00; two years, $3.50; three years, $5.00. Single copy, 20¢. Other countries, 50¢ per year additional for postage. Published monthly. Discontinuance: Subscriptions stopped on expiration. No subscriber will be run into debt by us for this journal. Change of Address: Give your old address as well as the new and write the name to which the journal has heretofore been addressed. Remittance should be sent by post office money order, bank draft, express money order or check. Contributions to Gleanings columns solicited. Stamps should be enclosed to insure return of manuscript to author if not printed. Advertising Rates: Advertising rates and conditions will be sent on request. Results from advertising in this journal are remarkably satisfactory. Advertisers' Reliability: While the publishers do not guarantee advertisements in this journal they use utmost diligence to establish in advance the reliability of every advertiser using space in this journal.

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POSTMASTER: Send Form 3579 to 623 West Liberty Street, Medina, Ohio.

Second Class Postage paid at Medina, Ohio.

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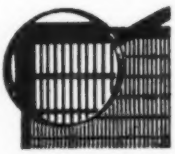

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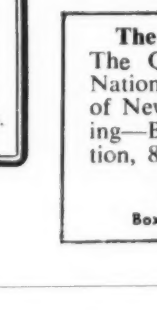

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Monthly HONEY Report

WALTER BARTH
Field Editor
San Antonio, Texas

IT IS A RELIEF to see that honey packers are counting on premiums rather than price cutting as a major means of building sales. This month brings two packers into the limelight with premiums and we hope that more will follow suit. The processors of HONEY BUTTER at Ithaca, New York are offering a camera at a low price while the Sioux Honey Association is offering a garment storage bag. Complete details come with each container of honey. Obviously this is not possible for small beekeepers but the inexpensive American Honey Institute honey brochures are within easy reach of all. Let's use them this fall.

While there has been little change in honey prices during the past month, processors are showing a reluctance to buy so that the wholesale market is sluggish. Apparently there is sufficient honey around so that packers don't feel the need to maintain a big inventory. The same is true for beeswax. The Middle-east political situation caused speculators to perk their ears in hopes of a rising beeswax market but there is enough beeswax around to supply the demand so that the market continues at around 45 cents a pound in the East and the Mid-west. Quotations at 42 cents per pound are reported in the West by large buyers and processors. The usual two cents extra per pound in trade is still maintained. No break in these prices is presently indicated.

Retail extracted honey prices have crystallized generally at these levels:

Size	Price
½ lb.	22¢
1 lb.	39¢
2 lb.	73¢
5 lb.	$1.49

Reports of small beekeepers selling five pounds of honey for as little as $1.00 to $1.25 is continually being reported. It is difficult to understand why anyone wants to give their honey away. Later these same people will cry that beekeeping is an unprofitablle hobby. Let's stop giving honey away.

Any adverse publicity for our industry will, in time, affect the honey market. It is for that reason all Gleanings readers should be aware of the bad beekeeping publicity that appeared in the September 8th issue of TIME magazine. On page 58 under the heading of "Medicine" appeared a short article called, "The Venomous Bee". The story reports that **honeybees are second to rattlesnakes as a menace to life in the United States.** Here is the way the picture looks:

Deaths*	Caused by
55	rattle snakes
52	bees
30	hornets, wasps, yellow jackets

*The deaths in this survey covered a period of five years. In this same period 71 deaths were caused by all venomous snakes.

It is going to take a lot of good and continuous publicity to counter the effects of this article. Unfortunately a lot of folks blame the honeybee when stung by an insect. Not that the honeybee is innocent but I am sure that the honeybee is often unjustly accused. Still, publicity of this type will cause people to forget the value of honeybees as pollinators and the nutritive value of honey. National Honey Week provides an ideal period to counter the effects of the TIME article. Educational beekeeping displays, honey displays, and above all, the consistent packing of good honey will build goodwill for you and the industry. Avoid packing strong flavored honeys unless the nature of the honey is indicated on the label. If honey handling and packing is your problem then seek the help of the honey

(Continued on page 631)

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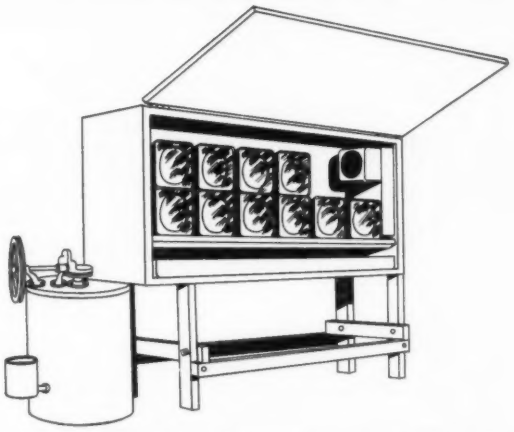

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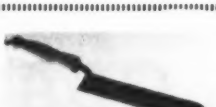

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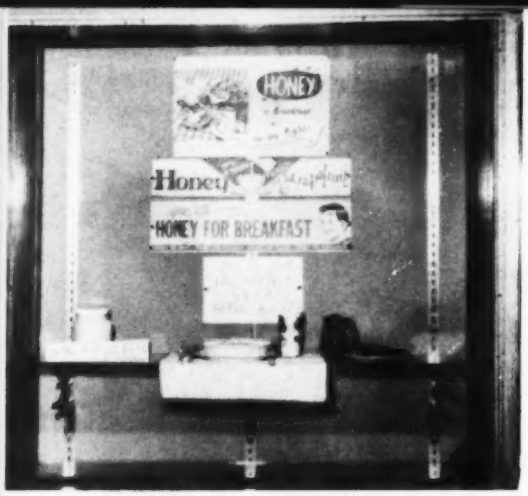
Aldwin and the ribbons that he won the last four years exhibiting at the Washington County Fair. Certificate in the middle is in recognition of the Blue placing he got on his demonstration at the Wis. State Fair.

What 4-H Beekeeping Has Done For Me

Here is a 4-H story lined with blue ribbons and requests for public demonstrations. Why don't more boys follow his example? Aldwin will tell you.

ALDWIN H. SEEFELDT, 4-H'r
Kewaskum, Wisconsin

HERE IT IS AGAIN, the end of another 4-H year. It was my fourth year in 4-H work, also my fourth in the 4-H beekeeping project. Perhaps I should go back four years and tell you how I got involved in 4-H beekeeping and review what it has done for me the past four years.



Honey for Breakfast Week display that I put up in school.

It wasn't until I was 13 years old that I was exposed to 4-H, because it wasn't until then that a 4-H Club was organized in my community. It was when I discovered that beekeeping was a 4-H project, that I became interested in 4-H work and joined our local club.

Why should I be interested in beekeeping? Well, I had one good reason. My father has been beekeeping for about 40 years. He is Alfred H. Seefeldt, once President of the Wisconsin State Beekeepers' Association. He often told me about his experiences exhibiting at County and State Fairs, as a honey judge, and as a State Inspector. All these things encouraged me to take the 4-H beekeeping project and to help my father with his bee work.

My first two years were a lot of fun and full of ambition because it was something new to me. I especially enjoyed exhibiting at the Washington County Fair for the first time. In my first year of exhibiting, I got two Blue placings and a Red. In my second year I received two Blue placings.

At the end of each 4-H year, there is a County Achievement Night program at which 4-H'rs who have completed their projects and 4-H Record Books to requirements, are awarded Achievement Pins. I have received three pins so far for beekeeping, and I am hoping that I will receive one again this year.

My third year in the 4-H beekeeping project was the most enjoyable, and I believe, most educational that I have ever had. The first thing that I did that year was to set up an observation hive in our Biology laboratory in school as a Biology project. This was quite an attention getter and it gave me a chance to explain something about bees and beekeeping to my schoolmates.

The thing, though, that made this year different from the previous two years was that I entered our County's 4-H Demonstration Contest with a demonstration entitled "How We Prepare a Comb Honey Super". I received a first rating in the contest and I was then asked to give the demonstration at our County Fair. From there, I was chosen to represent Washington County as an agricultural demonstrator at the 1957 Wisconsin State Fair. At the State Fair we were required to present our demonstration once a day for three days before a judge and other people that were interested. I received a Blue rating on the demonstration at the State Fair also.

While at the State Fair, I was asked to appear on a television program that was going to be centered around 4-H activities at the fair. I gave part of my demonstration on the program as did several other demonstrators. I also made a tape recording about my activities at the fair for a radio station and had procedure pictures of my demonstration taken for a national 4-H magazine.

When I had free time, I worked in the Wisconsin State Beekeeper's Association stand in the Agricultural Building. I even had the opportunity and pleasure of escorting the Wisconsin Honey Queen, Carol Jawort.

There was one thing that I found to be true wherever I gave my demonstration, while I worked in the State's stand, or while I watched people look over our County Fair exhibits. That is that the general public knows very little about bees and beekeeping, but that they are also very willing to learn all they can. This is one of the reasons why I enjoyed working in the State's stand. It is very hard to keep from laughing at a customer when you have to tell them: "No Madam, those aren't butterflies, they're honeybees." That has actually happened.

Late last year, our County 4-H Agent asked our County's State Fair Home Economics demonstrator and me to help him present a live television program on 4-H work. We were asked

to give our demonstrations as an example of some of the things that 4-H'rs are doing. It was quite a thrilling experience for both of us to be the main feature of a regular television program. The host on the program was very amazed after seeing our performances because he had not been exposed to 4-H work since he lived in a large city. He, too, was full of questions to ask me about bees and beekeeping.

Going back to the County Fair again, last year was a real success on my part. I took all the first places in the Apiary Class. This gave me four Blue ribbons: White Honey, Comb Honey, Observation Hive, and Beeswax Display.

Also, last year, my 4-H Record book went to Madison for State Record Book Competition under the entomology project. In Wisconsin, beekeeping is a part of the entomology project and not a separate project as it is in many states. The record books are judged to determine the 4-H'rs (one for each project) that will represent Wisconsin and attend National 4-H Club Congress for that year. My book was not chosen as the entomology winner, but it still made me feel good to know my record book got to the state competition.

This year, my fourth, did not prove to be as colorful for me, as far as beekeeping is concerned, as last year, but I am satisfied.

This past winter I was asked by our local Kiwanis Club to give my demonstration at one of their meetings. The Kiwanians were fascinated with many of the things that I told them and as most people, they were full of questions.

During "Honey for Breakfast Week" this year, I put up a display at school which drew much attention and presented me with many questions from the other students.

At this year's County Fair I wasn't as fortunate as last year. I received one Blue, a Red and a White rating. Well, you can't always get all Blue ratings.

With all that I have said so far, it may appear to you that I do nothing but seek publicity for myself. As it is with any other beekeeper, it isn't all glory and no work for me either.

Right now, my father and I are operating about 60 colonies. There is always plenty of bottling, repair work, preparation of supers, and right now, extracting, to keep me busy during my school vacation. My father does most of the yard work because there's nothing like experience when it comes to handling the bees.

Giving my demonstration at the Washington County 4-H Demonstration Contest.

Yes, the 4-H beekeeping project has done many things for me in the last four years and probably has many things in store for me in the future. I have really enjoyed it and I would really miss it if I couldn't continue in it.

But why aren't there more boys and girls enjoying the experiences that I have? Where are our future beekeepers? 4-H offers an excellent opportunity for young people to get started in beekeeping, but why aren't there more 4-H'rs and other young people starting in beekeeping? I know that this isn't a problem in all states, but in the majority, Wisconsin included, it is. Let's look at some of the possible reasons.

Could it be the record book, as far as 4-H is concerned? The records required for 4-H are very simple. They consist of a few general questions on condition, etc., a financial record, and

(Continued on page 591)

A FEW BEES PAY OFF IN

Front of the Alamo which stands amid the tall buildings of San Antonio.

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Antonio.

H. R. Newcomer, chief gardner for the Alamo said, "I was scared of bees and wanted nothing to do with them until one day a beekeeper came along and told me how to handle the situation and encouraged me to keep bees on the grounds".

A. B. KENNERLY
College Station, Texas

VISIT THE Alamo Museum on your next trip to San Antonio, Texas, and you will see honey selling retail at 50 cents a pound. And two-pound jars with a chunk of comb are selling at $1.25. You will see them, that is, if there's any left. Attendants at the novelty sales counter in the museum say the supply is usually sold out long before another season.

Labels on the jars tell customers it's Alamo honey, and truly it is, for it comes from five colonies of bees located on the flowering grounds surrounding this historic fort.

"Our bees are working some kinds of flowers every month in the year", says H. R. Newcomer, chief gardner for the Alamo. "As many as 150 types of trees, shrubs, vines and flowers grow within the walls which enclose the small area outside the Alamo. Many of these are flowering plants and the flowers produce nectar or pollen."

In winter, such flowers as pansies, snapdragons and roses provide at least a bit of pollen to bees that venture out on warm days. Loquat trees produce a flow in November, and before that, Queen's Crown gives excellent flow of nectar that makes good honey for wintering, but poor quality for the table.

Any experienced beekeeper knows, of course, that bees range far and wide searching for honey sources. The Alamo Plaza, located in the heart of the San Antonio business district, limits the range of bees and consequently the number of colonies. "I believe that five good, strong colonies are about all that can be supported at this location", says Newcomer. "One of the best colonies produced 110 pounds surplus honey last year and a couple of others hit right at a hundred pounds. After the surplus was taken off, I left about 50 pounds to the hive for wintering".

But this isolation in the heart of San Antonio's business district may not be such a disadvantage after all. Newcomer, pleased with the performance of one of his queens, is trying for a pure line of bees, a possibility enhanced by isolation of his location at the Alamo. "All of the old, hollow trees that may have contained swarms of bees have about been cleared from the central part of the city", Newcomer points out.

The bees in which Newcomer is particularly interested have little tendency to swarm and he likes to keep them at home making honey.

Although hundreds of visitors walk the grounds each day, few of them have been molested by the bees. The only ones who have been stung were those rare individuals who insist on prying into the colonies or who may wander in front of the entrances. Newcomer has a reply for those who complain of getting stung. "I'm sorry", he tells them, "but we have signs over the grounds to keep off the grass, and when anyone wanders from the walks onto the grass, he's liable to get in trouble."

Bee stingers are not the only points of contact with wanderers. One man complained that he had been stuck by a shrub. It turned out that in attempting to get his family in camera range

XUM

H. R. Newcomer standing next to one of his five hives in the Alamo gardens.

he inadvertently backed into a Spanish Dagger plant. He almost stumbled over a "Keep Off the Grass" sign scampering away from it.

Many of the trees and shrubs native to Southwest Texas are found on the Alamo grounds and it's traditional with that part of Texas that most everything that grows has thorns on it.

Among the trees and shrubs that are good honey producers are mesquite, catclaw, huajilla and huisache, all native to Southwest Texas and produce an excellent mild-flavored table honey. Other plants which produce some honey flow are ligustrum, vitex, tallow, ratama, willow, ebony, asters and many others of the annual flowers.

If you're interested in the flowers of San Antonio, you will find attractive descriptions in a book written by H. R. Newcomer titled, "Gardening in San Antonio and South Texas". Newcomer tells how to grow the flowers, drawing upon his 13 years of experience on the Alamo grounds.

Like many others, Newcomer got started with bees by chance. A swarm of bees built their combs in the walls of the Alamo and he was called on to

This scene shows a part of the Alamo gardens, a very peaceful place in the center of the San Antonio Business district.

remove them. "I was scared of bees and wanted nothing to do with them", he revealed. "One day, a beekeeper came along and told me how to handle the situation and encouraged me to keep a few bees on the grounds. When another swarm lighted on the grounds, I put them in a box and later transferred them to a hive".

Likely there will never be more than five colonies of bees on the grounds, but Newcomer wants to be certain they are the finest bees he can obtain. And visitors, admiring the beautiful flowers of the Alamo gardens can take home with them some of the flavor of this beauty in small jars labeled, "Alamo Honey."

WHAT 4-H BEEKEEPING HAS DONE FOR ME

(Continued from page 587)

a record of work done during the year. So, I don't think it's the record book.

The cost of equipment to get started is often a point of hesitation for beginners. It is easy enough to explain though, that the bees will pay for their investment if properly taken care of, and there is always the possibility of picking up some good secondhand equipment too.

Could it be a lack of interest? I don't think that is true either, because as I said before; people are curious about bees and they are willing to learn all they can about them.

Maybe it is dislike of honey products. Now, that I doubt very much. Almost everyone enjoys honey.

No, I believe it is just plain common fear. Fear of a little insect called a honeybee. People enjoy watching bees behind the glass observation hive, but that's as close as they want to get to them. How to make people overcome this fear is a big question, but I believe it is the answer to the problem of increasing the number of beekeepers, especially among young people.

I hope that I have offered through my experience, some encouragement for young people to get a start in beekeeping and for those who are already started, to stay with it.

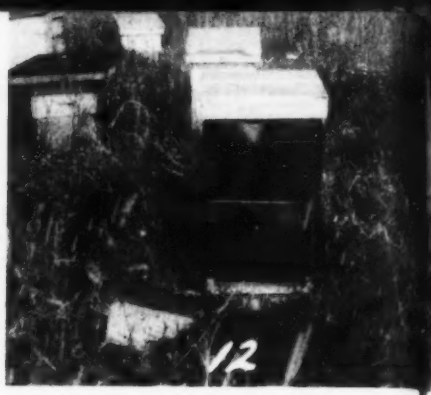
Perfect Frame for Cut Comb Honey

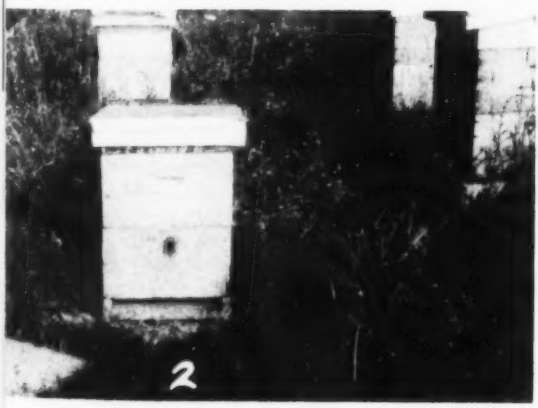
JOHN MAILLOUX
Ferrisburg, Vermont

HAVING SEEN several articles in Gleanings about the "perfect" frame for cut comb honey production, we do not want to enter into any controversy but rather wish to point out the advantages of a frame we have found, which we believe to be ideal for this purpose.

This calls simply for the standard shallow frame with grooved top bar. We nail only one nail on each end of the top bar near its edge and split it down the middle after assembly, (though this could be done before). This leaves one-half of the top bar removable. The sheet of foundation is put in its place, the half of the top bar replaced and the frame is ready for the super. This we have used many years. Now a most important thing is to split the bottom bars also allowing the foundation to be held at the bottom. This prevents breakage in handling and assures nice straight even combs of honey. This is most practical and requires no special frames.

"THERE'S SEVERAL GOOD BOOKS ON THE SUBJECT BUT I'LL BE GLAD TO TEACH YOU ALL I KNOW ABOUT BEEKEEPING."





1. Mouse guard for entrance is made from ½-inch mesh screen the same length as the entrance and about 3 to 4 inches wide. This is bent into a long U and inserted into the entrance and can be kept there the year around.

2. House guard in place. Upper entrance can also be in upper hive body, but it is not so important when a full-sized entrance is used in wintering.

3. Felt paper is cut to length with a linoleum knife. It should be cut to make about a 4-inch lap.

4. Felt paper is then folded lengthwise to make the proper height. The paper wrap should be about 6 inches above the inner cover.

5.-6. Paper is folded to proper size and the lap glued with quick setting asphalt cement. After gluing the "sleeves" are left piled up for a day or two for the cement to harden.

7. Felt paper "sleeve" in place. Notice that the paper is not folded over the top of the hive, the cover simply telescopes over the paper wrap.

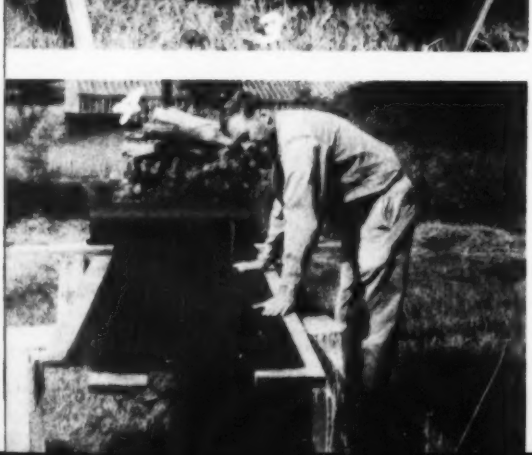
8. The bag of shavings is placed on top of the inner cover, and spread smoothly, and the outer cover put on.

9. Binder twine is wound around two nails so that a large number of strings of the proper length can be cut at one time.

10. The twine is tied around the hive with a slip knot.

11. The twine then goes over the cover and is tied securely on the other side to the twine that is around the hive. Covers tied down in this way will never blow off, even in a hurricane. I've seen hives blown over, but the cover stays on.

12. A small hole is cut in the paper to correspond with the upper entrance and the hive is already for winter. With the material already before hand, it takes only a few minutes to pack a hive for winter, and even quicker to unpack in the spring. New twine should be used each year, reused twine does not hold well the second year, but the paper cases are good for many years if they are stored in a dry place.



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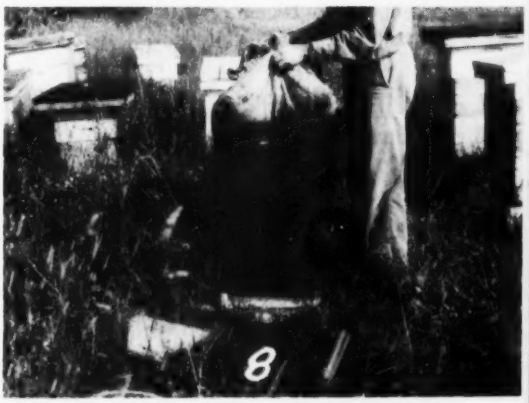
Wintering Bees

CHARLES MRAZ
Middlebury, Vt.

THERE ARE quite a number of factors that influence successful wintering in the north where bees are confined in the hives for long periods of time. It is not unusual, but rather common in Vermont for bees to have no flight for five months at a time but under normal conditions, this long confinement does not cause any winter loss. Of the many factors involved, it is sometimes difficult to say which is most important as they are all important.

A sufficient supply of good honey is perhaps the first important factor, yet the amount necessary will vary considerably with different strains of bees under identical conditions.

Another factor sometimes considered important is that of having a large number of young bees. Again heredi-



tary characteristics play an important part. Some strains of bees continue raising large amounts of brood until they are forced to stop by freezing weather. Other strains stop as soon as the honey flow is over, before real cold weather sets in.

I am firmly of the opinion a large colony of young bees is not an asset in the fall. Such heavy colonies use large amounts of stores both in winter and spring, usually ending up by starving to death. Colonies not so large will usually winter better, consume less honey and build up better than one producing excessive amounts of brood in the fall.

Another heriditary characteristic that plays a part in good wintering, is a natural wintering ability. Some bees winter quietly with no fuss or trouble. Others seem to be restless all the time, usually coming down with dysentery. These w i n t e r i n g characteristics of course, can only reveal themselves under actual wintering conditions, Colonies that winter well and are conservative in their fall brood rearing and honey consumption should receive more consideration than they do in the selection of breeding stock.

While a beekeeper may not have too much control over the wintering ability of his bees unless he raises his own queens, he does have control over the mechanical problems of wintering and they can be very important. For outdoor wintering a one-story hive is not enough. A one and a half or two story hive should always be used.

If I were to select the one most important factor for successful wintering, outside that of sufficient stores, it would be ventilation. More bees are killed by lack of ventilation than anything else. It is natural for a beginner to contract the hive entrance as small as possible, apparently to keep the heat in. An entrance only the size of the smallest opening of a standard entrance block is much too small. With such an entrance in very cold weather a strong colony stands a pretty good chance of dying. Bees can stand plenty of cold air if it is dry, but dampness in the winter is deadly. Bees "burn" honey during the winter for body heat, not hive heat, and one of the products of combustion is moisture. In very cold weather this moisture condenses inside the hive with disastrous results.

Upper Entrance Essential

An upper entrance of some kind is a "must" and in addition to a three-quarter inch upper entrance we always winter with a full size lower entrance. To keep out mice, one of the best entrance screens I have used is like that in the illustration. We use one-half inch mesh screen, bend it to a U-shape cross section and push this into the entrance, much the same as one would use screens for moving bees. We find this entrance works very well. If it is pushed in flush with the hive, skunks cannot pull it out. Also, it can be left in the year around; it does not seem to obstruct the entrance in the summer. Not having to bother with entrances helps greatly with fall and spring work.

Single-Walled Hives Wrapped in Tar Paper

In the past 40 years. I have experimented with almost every type of packing ever devised to winter bees, from no packing to packing a foot thick. At the present time I have over 500 colonies in permanently packed double-wall hives, with three inches of shavings on the sides and six inches of packing on the top. As soon as we are able to do so, these permanent hives are going to be junked for we expect to have all our bees in standard, single-walled hives. Packing will be entirely with tar paper and a bag of shavings on top. The reason for this is that another 400 colonies so packed do as well as those in the permanent packed hives. Also most of these double-walled hives are getting to be 20 years old or more and starting to fall apart. Double-walled hives definitely do not have enough advantages to pay for their extra cost. In fact they have no advantages at all.

While bees will winter with no packing at all even here in Vermont with five months confinement, I believe in tar paper packing for several reasons. The tar-paper pack helps protect the hive for half the year so that it does last longer. We do not use any loose packing on the sides, the only packing material is a bag of shavings on top of the inner cover. With the shavings in a bag, one does not have to handle loose shavings, the bags can be taken off or put on in just a matter of a minute or less. I believe this top packing

helps greatly in the spring when bees start brood rearing to help them through cold spells. Packing on the sides is too much work and not worth the bother. There are many ways to apply the felt paper on a hive and we have tried them all. The best system we have used to date is to make up the paper in "sleeves" at the honey house, gluing the ends together with quick-drying asphalt cement. One can make up several hundred of these sleeves in a day and they are easy to carry around to the yards in the flat. To pack, one needs only to slip the sleeve around the hive, put on a bag of shavings, put on the cover and tie it all with binder twine. We used to pin the sleeves together with nails but this is not satisfactory. Before gluing the ends of the sleeve, the strip of felt paper is folded to make it the right height for the type of hives used. For two standard depth bodies, the paper is folded so the sleeve is about 28 inches high. This folded side of the sleeve is always at the top. It must be remembered also to make the sleeves big enough, as most felt paper will shrink after it weathers over winter. This makes it difficult to slip off the sleeve so that it can be used again the next winter. These sleeves, if stored in a dry place, can be used for five years or longer, which means a considerable saving in time and felt paper. Bags of shavings will also last almost indefinitely if mice don't chew them.

We find baler twine is by far the best means to hold down the covers. Stones are not good, they have a tendency to compress the packing on top of the hive during the winter. This compressed packing on top does not get enough ventilation and will cause wet packing, with moisture coming up through from the colony. We always leave the holes in the inner covers open. A hole is also cut into the felt paper to correspond with the upper entrances.

Until we find something better, we believe this is by far the best method of packing we have used. It is cheap, quick and effective.

Various types of paper packing have been devised, such as corrugated cardboard boxes that are slipped over the hives, but these are more expensive and do not last as long as felt paper. No one can give the colonies better protection for winter. With a wide open bottom entrance and small upper entrance, there is plenty of ventilation. If bees don't winter with this system, then something else is wrong. In the last 10 years our winter loss of queenright colonies is practically zero, in fact it is hard to remember ever losing a normal colony. Any loss we do get is almost always colonies that are queenless or with drone layers. Good beekeepers never pack queenless colonies or those with drone-laying queens but quite often they end up that way before spring.

From this basic description of our method of packing, beekeepers can make changes to suit their own conditions, always keeping in mind how to do it quicker, easier, cheaper and better.

Our Cover

MR. BEEKEEPER has labored hard and long during the past season and is now putting the finishing touches on packing his last hive. The bees should winter well and be snug as a bug in a rug—provided he has left an abundance of honey for winter and early spring food. Notice the upper opening which will help the bees to expel excess moisture that may accumulate.

"Heaven man, don't sneeze in their face!"

B & Z Library

The cellar is started.

SOMEDAY - -

A bee cellar is a handy thing for wintering nucs.

M. H. STRICKER
Stockton, N. J.

SOMEDAY I'm going to have a bee cellar. Now that is a strange wish for someone who lives in New Jersey where wintering bees is one of the minor problems of keeping bees, but the only resemblance to those bee cellars of the northern climes and the one I am dreaming of will be purely coincidental. Yet, as I plan it, it seems like a handy thing.

First of all, it would be used to winter a number of nucs from my queen yard. Those queens that are not sold by the 15th of October, or those I planned to keep for spring requeening or increase, could be stocked with honey or Fuller candy and stored in this cellar.

My nuc boxes are all built with a wired bottom which would provide winter ventilation and since they are built to handle four standard frames, they could be easily stocked with ample honey and sufficient bees for a winter in a dark cellar with a controlled, cool temperature.

I have been able to winter nucs to a small extent in my own cellar, but the warmth of a modern cellar with its oil burner causes the bees to become restless and necessitates much cooling off in February and March by setting

them outside for flights, or they become so restless that death or almost fatal dysentery develops.

It would, of course, be a good place to store combs, cool enough from the surrounding ground temperature to keep the wax moth at bay until late summer. If necessary, it could always be fumigated with methyl-bromide after the over-wintered nucs were moved away. If it were reasonably bee proof, the "wet" supers after extracting could be stored there if it were too cold, or I were too lazy to take them to outyards to be "licked up".

The actual plan of this cellar would be an excavation about 18 feet wide, 8 or 9 feet deep and perhaps 28 or more feet in length. It would be dug in a north slope with a gradual grade to the north side so that a truck could be backed up to its floor level. The door on this end would probably be about 4½ feet wide and 7 feet high, large enough that a man with both arms full could enter without squirming sidewise and cussing a little at every trip.

I have thought seriously of having an 8 by 8 overhead door so a pick-up could drive into the cellar, but this will make for more heat loss, will be harder to insulate and harder to make bee proof, so the smaller door, which will be insulated on the inside with rock wool or glass wool, will probably be elected.

The walls of the cellar will be of cinder block, with the holes left unfilled to provide a dead air space and some insulation. On the top of this wall will be a gambrel roof about 8 feet high at the peak with a well-insulated wooden floor.

The gambrel is selected because it gives more space for less money than the conventional A or gable-type roof. This top story will be used for the storage of empty nuc boxes and wooden equipment not in use in either the winter or summer season.

This section will probably contain windows in both ends to give light and, of course, a door in the south side for entering and removing the equipment when needed.

By the way, there will be no means of communication between the upper and lower story. The floor is to remain intact with its insulation to avoid as much heat or cold transfer as possible.

As for ventilating the cellar, that will be done by a thermostatically controlled fan on the south side, probably in a flue, to discharge the warm air. This will be at ceiling level. The cold air will be drawn through two underground pipes on the north side, one on either side of the door. The transite, or terra cotta, pipes should be at least 8 inches in diameter and should run 20 or more feet from the front of the building. These should be covered with 6 or 8 feet of earth and should be screened against rodents. They should come into the cellar at floor level and the idea of covering 20 feet of their length with earth is so that they will provide some cool air even in warm weather.

I have thought about this cellar for some years, and now when I re-read this article, I am so sure that this is just what my apiary needs that I am going to call for the bulldozer operator right now!

Fuel for the Smoker

ROY B. STREETER,
Rossie, N. Y.

I USE the fungus that grows on old logs and trees as fuel for my smoker. It is white on the under side. I dry it and chop it up into pieces that will go in the smoker, then start the fire with burlap. I use it until noon on one filling then fill it again before going to dinner and find it going when I come back, if I haven't been gone over three or four hours. Try it.

Gas Mileage of Bees

HAVE YOU EVER wondered how far a bee can fly on a gallon of nectar? At 7 m.p.h. bees get 4,000,000 miles per gallon of nectar. See how this compares with the following insects:

Flies get 2,000,000 miles per gallon at 10 m.p.h.

Mosquitoes get 450,000,000 miles per gallon at 2½ m.p.h.

This information comes from the "flight mill" developed by Professor Brian Hocking of the University of Alberta, Canada.

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Bees do many things in which they seem to have the power of reasoning. You could probably tell me a million more remarkable phenomena which would make us almost positive that bees actually are thinking. But do they think? I did not have to wait too long for an answer which settled all my doubts.

Do Bees Think?

THOMAS JANKOWSKI, C.SS.R.

Esopus, New York

I TINGLED with excitement as I jimmied a hive tool under the cover and loosened it up. This was my first day on the "bee crew" at our major seminary of the Redemptorist Fathers—the college of Mt. St. Alphonsus. All my life, like all the "uninformed," I had always been scared of bees. And now I was putting on quite a show. An old-timer on the crew was standing by, giving instructions, and laughing very hard at me. I guess it was fun for **him**.

I lifted the cover shakily and for the first time gasped at the wonderful world of bees. I was fascinated; I wanted to watch that one hive all day. This miniature city was literally buzzing with activity; each scurrying bee was doing his own small job. I am sure you old professionals can remember the thrill of your first look at a hive.

But now I've been working with bees for some time. Now some of the marvels seem commonplace. I guess that is the way with many wonderful things in life. When we first experience them they are exciting; then after some time we get used to them. The panorama of purple mountains out of our window, or the fresh spring smells of the country seem ordinary after a while.

But occasionally the bees do succeed in reminding me how marvelous they are. And some phases of bee life will always impress me. These phases of bee behavior have often made me wonder—do bees think? Here are a few examples. First, bees seem to know what is good for the whole community, even though it is harmful to themselves individually; and with their tireless drive and energy, they give their lives for the community, actually working themselves to death for the sake of their fellow bees. Or a scout-bee signals the location of nectar by running sideways up a frame, or circling wildly and dancing up and down. These antics somehow tell all the other bees exactly where to find good nectar. Or architect-bees build very exact and very perfect six-sided cells—seeming to realize that round cells would waste material and square cells would waste space and be less strong. And when the hive gets too hot, the bees simply turn on their perfect ventilating system. They seem to have figured out and solved the problem of ventilating, thousands of years before man even dreamed that he could make himself comfortable with air conditioners and dehumidifiers. And you could tell me a million more remarkable phenomena which would make us almost positive that bees actually are thinking. But do bees actually think?

I did not have to wait too long for an answer which settled all my doubts. For besides keeping bees as a part-time job, I also am studying for the Catholic priesthood. That is my main job. And right now I am studying philosophical psychology. In other words, I am learn-

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ing something about the "how" and the "why" of living things.

Just the other day, our professor began a long and learned lecture by stating that no animal—whether a cow or a crow, a bug or a bee—has the power to reason or think or act intelligently. Since the lecture was in Latin and since his reasons were very good, I believed him. But immediately I felt like asking: since animals can't reason or think with intelligence, how can they do such complex things that look so intelligent? His next statement answered my proposed question: there **is** intelligence in their actions, he said, the Intelligence of God. God in his Divine Providence has given all animals powers that preserve them. These powers make all animals seek what is good for themselves and avoid what is harmful to themselves. We call these powers "instinct". All those marvels I listed before are a result of instinct.

What is Instinct?

I soon discovered that psychologists battle in book after book about instinct. And they give the one word "instinct" a million meanings. I once heard someone say that if all the psychologists were laid end to end, they could never reach a conclusion. Of course I do not believe that quip, for we know many truths about the different actions of animals and people that are certain. But if there is any one issue that would make me believe that witticism, it is the issue of defining instinct. I will not trouble you with listing their arguments and counter-arguments. The account would sound like a World War, and would take a set of encyclopedias.

It seems to me, after much sober deliberation, that the most sensible and scientifically accurate definition is this. Instinct in an animal is the **inclination**, which depends on the information given by the **"estimating" faculty**, to do something good or avoid something harmful to itself or its species.

Now to explain. This inclination is an impulse or a tendency in an animal to go into action as soon as the animal gets the proper information from his "estimating" faculty. This impulsive action is automatic. For example, as soon as a bee spots a quick, aggressive movement near his home, he zips out and vaccinates the attacker with his stinger.

And the "estimating" faculty is a power given by God to an animal by which the animal sees what is good for itself and what is harmful to itself. Thus, in the case above, the bee spied the aggressor with his eyes, his estimating power told him this attacker was harmful and very quickly his instinct, acting on this information given by his estimating power, gave him the impulse to shoot out and sting.

And the process acts in the same way for the good of the animal. Suppose a scout-bee spies some delicious red clover, bobbing in a breeze far below, as he circles around. His estimating power tells him immediately that this is a gold mine for his gang back home. Then his instinct, again acting on the information which is given it by his estimating power, charges him with the impulse to hum back home and signal to everyone about the red clover.

That is the general operation of instinct. But instinct has many very unusual and most interesting characteristics. We will now discuss a few of them and will clearly see the differences between instinct and intelligence.

In the beginning of this article we listed a few amazing tricks the bees perform. And you have witnessed many more. Now these complex actions are very natural for bees; they do them time after time with great precision. Even young bees have little trouble with their tricks. This is because all instincts are "objectively perfect".

To explain the word "objectively". Everything in the world (fishes, flowers, roaches or even rocks) has an object or purpose for its existence. Our purpose in raising bees is for money, for fun or for both. If nothing had a purpose or object, nothing at all would or could happen in the whole world. We would never haul ourselves out of bed in the morning if we didn't have a purpose in getting up.

Now bees in attaining their object or purpose—that of gathering stores and raising more bees—through instinct perform all their actions **perfectly**. I once had an old and venerated biology teacher, a Catholic priest, who described this instinctive perfection in attaining a purpose as "a propensity prior to experience and independent of instruction". The first web of a young spider is as perfect and as beautiful as

the trap of the aging battle-scarred spider, who has spun many webs and snared many bugs in his long lifetime. Or a young bee begins his life's work by starting to scour and polish brood cells almost immediately after birth. No one has taught them. Their actions are perfect from the start.

Here bees have a distinct advantage over us human beings. We will admit that life in our society is as complex as that of the bees. (Sometimes we are even ready to condem our life as too complex.) But only time and progress brought us to our highly civilized state. Bees, however, never needed to progress through stages equivalent to living in cold caves or devouring raw meat. They never needed progress to attain their very orderly organization. Thus, over two thousand years ago, the Latin poet Vergil described bee life exactly as we know it today. Perhaps Adam and Eve, whom we read of in the Book of Genesis in the Bible, no doubt were impressed by the same marvels of bee behavior that we admire today!

But, sad to say, bees follow their purpose only as long as nothing **interferes** with their actions. For bees can do things in only one way, even though that one way is perfect. Thus when something blocks that one way of acting, bees act very stupidly.

(Continued on page 605)

Walt Disney's True Life Adventures
HONEY DOG
IN MANCHURIA THE YELLOW-THROATED MARTEN IS CALLED 'MI-KOW' (HONEY DOG) BECAUSE OF HIS SWEET TOOTH.
LURED BY THE AROMA OF HONEY, HE SITS IN FRONT OF A BEEHIVE AND SNAPS AT THE HONEY BEES THAT COME AND GO.
© 1958 Walt Disney Productions World Rights Reserved.
BUT THERE ARE MORE DIRECT WAYS TO SATISFY HIS CRAVING-- WITH FLOWERS, BERRIES OR FRUIT.
Distributed by King Features Syndicate. 7-15

DRONES ARE IMPORTANT

The drone might well be called the "forgotten man" of beekeeping. Regarded as primarily a nuisance—and a costly one—by both amateur and commercial man alike.

J. F. MOYLAN

Taken from The Australian Bee Journal, October, 1957

HE HAS BEEN relegated to the outer confines of beekeeping thought and practice.

However, to the queen-breeder and the queen raiser, the drone assumes, or should assume, his proper stature. Since the worker bee is genetically 50 per cent ex queen and 50 per cent ex drone, a reasonable proportion of the profit and loss of beekeeping can be attributed to the drone source.

Selection of Drone Source

Exactly the same attention should be paid to this as to selecting a breeder queen. When the drone queen mother has been chosen, the daughter queens taken from her can be used to produce the drones used for mating. This gives a uniform drone source and should be constant practice.

Some Uses of Drone Source

(a) It may be used to introduce "new blood".

(b) In the production of two-way, three-way or four-way scientific hybrids.

(c) To achieve varying degrees of inbreeding.

(d) "Blending effects." To break down certain characteristics of the queen mother: e.g. temperament.

Maintenance of Drone Colonies

Drone colonies should go into winter with young vigorous queens, at least two full boxes of bees, brood and stores and a full-depth super of capped honey and pollen.

Good drone comb, full sheets with well drawn cells should be in the brood nest; say three combs per box; i.e., 30 per cent, when using nine frames per box, which seems desirable. These combs should be positioned in the brood nest alternating with worker comb. This will insure the queen laying in these combs as early as possible. Some juxtapositioning of combs—depending on conditions—may be necessary.

The amount of food given should make any spring feeding unnecessary as well as supplying good insulation for winter. This, other things being equal, will insure an early spring build-up.

If drone colonies are to be kept intact after use in the spring, they should never have less than an excess of 60 pounds of honey and pollen. It is well known that in time of dearth, bees will annihilate both drones and drone brood, even in mid-summer. An adequate surplus of stores and judicious feeding will help to guard against this eventuality.

Drones Out of Season

Drones out of season are produced by (1) drone layers, (2) partial drone layers and (3) laying workers; all three of which sources, I would, personally, not use.

A practical scheme for maintaining drones for, say a month or so, while mating autumn queens is to provide colonies with drones in many thousands from selected drone source. The colonies should be de-queened, have at least two boxes of food and brood and be inspected regularly and queen cells destroyed. The mating of a virgin can lead to the loss of drones in that colony.

Mating Distances

The "three mile limit" from mating site would certainly insure a majority of desired matings if this were achieveable. Incidentally, a bee-farm area of this size is approximately 28 square miles and is quite a tract of country.

There is mention in the literature of instances of queens mating with drones eight and five miles away respectively. Recent research by Oertel in the U.S.A. records the instance of a mating six miles from the drone source. In Roberts' trial of 18 queens, with foreign drone source one and three-quarter and two miles away, all 18 queens threw to both home and foreign drone sources.

Roberts and Mackenson mention a number, 50 colonies, as desirable. S. Taber III says as many colonies as the area can support.

For the commercial man, rearing his own queens, it breaks down to a simple matter of economics; how many colonies on the location he can afford to use as drone source.

Some factors influencing mating are listed. (a) topography of the country. A valley is restrictive of both queen and drone flights, while an open plain, sparsely timbered gives much more latitude. (b) timbering of area. Tall and fairly thick timber on the mating site is said to have a reductive effect on flight range. (c) number of wild or domesticated hives in the area. Some areas are so heavily stocked that little success can be achieved. (d) adequate number of own drones. This will depend on (a), (b), and (c), as well as the strength of own drone colonies and their number. Also the time of the season as well as the availability of honey and pollen are important factors.

Plural Matings

Although there had been isolated mentions over the years of this phenomenon, until Roberts' work in 1944 showed, of his test queens, 50 per cent mated twice, little notice seemed to have been taken. In fact, it was not until the revolutionary work of Stephen Taber III, published in 1954, that the full impact of these discoveries became fully realized.

Flying 184 queens, he estimated an average mating of six to seven times.

(Continued on page 605)

Catch a Bee IF YOU CAN

E. d. FOX
Washington 22, D. C.

DESERTED HOUSEHOLD chores to go outside laden with camera, light meter and photography instruction book to take up vigil in the beeyard. It was either that or go dashing out each time Belita called out, "Come quick, Ganny, there's a bee on a dandelion". Inevitably by the time I set up the equipment in my slow, unsure amateurish fashion, my desired subject took flight.

It is no easy task to catch a honeybee just where you want her for she is certainly not going to pause in her busy labors to pose for an anxious inexperienced photographer.

Managed to get a few snaps of bees flying about the hives. Although I waited long moments to get a picture of bees drinking at our carefully prepared place for them, they would have none of it. Seems they would rather drink from puddles of rain, wet towels on the line or messy wet sand piles. Had to settle for that. Prayed for beginners' luck with the camera such as luck we had when we started work with our bees.

Even before I realized the fact a storm was brewing, the bees began pouring in from the field. They flew about in circles when they reached the beeyard as if in doubt about flying in or taking off again. Many seemed quite cross probably because of this interruption of nature when pastures were abundant.

Not anxious to encounter any angry bees, I gathered my paraphernalia and left the scene, with hopes some good snaps had been taken. Always another day and this shutterbug really needs practice.

On my next try I did manage to get a few snaps of bees on clover blossoms but being very anxious and very determined I sat in the sun too long and blistered my back and shoulders.

Later while Belita soothed my burning hide with applications of moist tea bags we always keep handy for just

such emergencies, our mailman arrived with three queens we had on rush order.

We knew Ted had to kill one of the old queens and we both experienced a feeling of sadness. Wish there were some way we could put our old faithful queens out to pasture even as they did the old fire horses. Deliberate slaying hardly seems a fitting end to a royal career. Of course history records such was the fate of some real lady queens. Perhaps like them the queen bee prefers death to a second rate life of obscurity.

Be that as it may we still feel we should make a place for retired queen bees who have made valuable contributions to the bee world. Anyone have any suggestions?

DRONES ARE IMPORTANT

(Continued from page 603)

Another lot of 100 queens was used to prove that queens can mate more than once in a single flight. He did this by allowing them a single flight and having two different strains of drones in the yard. Thirty-four threw to both sources, proving they mated at least twice. It is of interest that the mating sign is not necessarily the indicator of impregnation, as three queens with the mating sign, on dissection, showed no sperms in the spermatheca, while three returning with no mating signs laid fertile eggs (worker).

Avoiding Local Drones

Using the fact that spring commences at different times in varying localities, it is possible to find sites with a comparatively early spring. By wintering drone colonies on one of these and shifting to a late spring site at a suitable date, it is possible to outmaneuver the bush bees. As it takes approximately five weeks from the egg to the effective flying drone, at least a month's grace should be gained, enabling the commercial man to raise and mate his queens successfully.

Conclusion

Experimentally—through Mackenson and Roberts—we know that insufficient insemination of the queen results in a partial drone layer.

From experience, we have seen that mating queens in the absence of sufficient drones may result in some total drone-layers as well as partial drone layers.

The only queen of use to a commercial producer is, of course, a well inseminated one — preferably from the chosen drone source. Hence this essay.

DO BEES THINK?

(Continued from page 601)

And we all know how stupidly bees and all animals can act at times. For example, how many times have you watched a bee bang his head against the pane of a half-opened window for an hour or so? He can't figure out that the clear pane is blocking his way to light and the outside. All he has to do is scoot over a little piece of wood to get free.

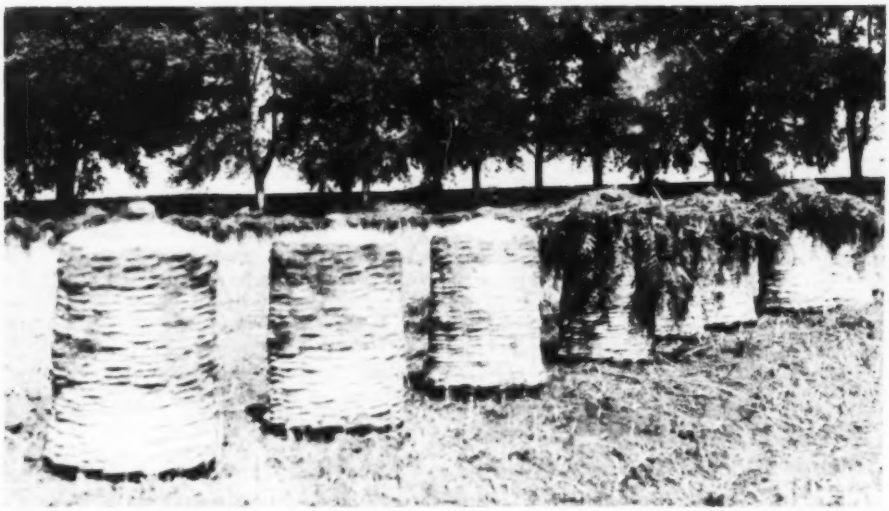
Here we human beings have a great advantage over bees. Man can always be progressing, while bee life will always remain the same. In the case above, if we were bees, when we realized that something or other was blocking our way out, we would immediately begin to try to discover another way out. In other words, we would begin to think and "figure". But bees never figure things out.

If we were bees, we, as intelligent creatures who think, could make some improvements in bee life. For example, we would first of all train drones to do a little work around the house. We would realize perfectly well that some drones do do work that is absolutely necessary, but many do nothing. St. Paul very aptly said, "If any man will not work, neither let him eat." (Second Epistle to the Thessalonians, Chapter Three, Verse Ten.)

Or when a robber jabs his smoker into our hive, we would try not to run from the smoke, realizing that it is just a diversion to try to make us forget we are being robbed. If the smoke puffed in too thickly, we would scurry down into the hive, roar out of the entrance, and boil down on our attacker's hands with fury—stinging him so much that he would have to run. Finally, if we were bees, after being robbed once, we would never let a beekeeper near our home again. We would learn from our first experience. We would plan raids

(Continued on page 631)

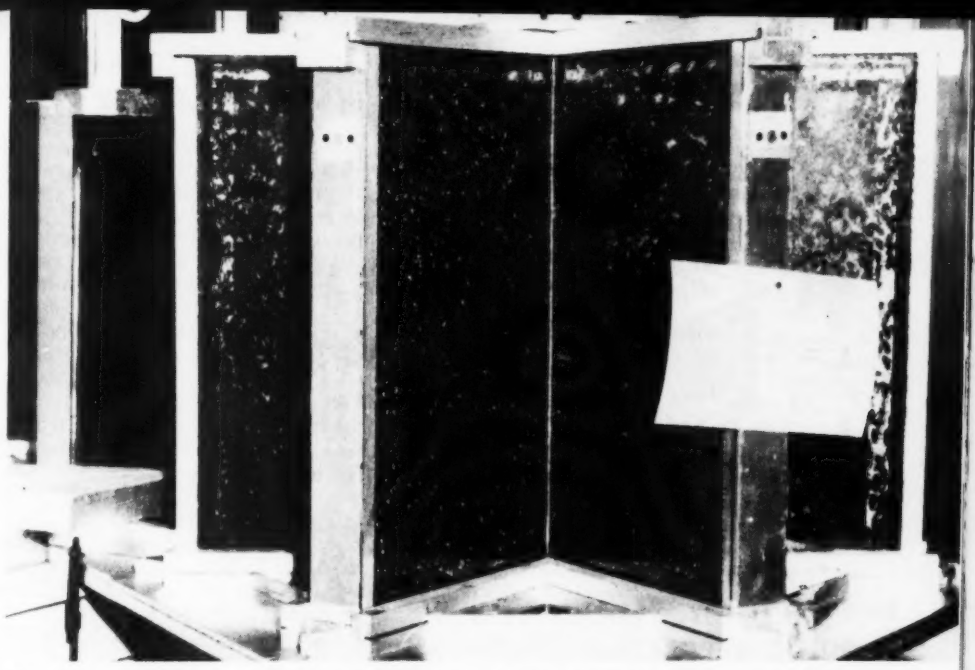
NEWS REEL



Part of an apiary totalling 400 colonies, near the ruins of ancient Philippi, northern Greece. The pattern of wickerwork hive here illustrated is widely used throughout this part of Greece. It will be noted that the vertical stays of the wickerwork project two inches beyond the bottom of the hive, giving the bees a free entrance in every direction. — Photo by Brother Adam, England.

Miss Kay Seidelman, Route 3, Ionia, Michigan, daughter of Mr. and Mrs. George Seidelman, was elected Michigan Honey Queen at the Annual meeting of the Michigan Beekeepers Association on July 19, 1958 at Ionia. Kay is 17 years old, blonde hair, blue eyes and 5 feet 4 inches tall. She appeared in the Ionia Free Fair parade on Monday, August 4, riding in a convertible with Conpressman Alvin M. Bentley. On August 6th she will be crowned by Governor G. Mennen Williams in front of the Grandstand at the Ionia Free Fair. She will be appearing in various events throughout the state and will enter the Queens' Contest at the Michigan State Fair in Detroit on Wednesday, September 3.

XUM



The Bosworth Observation Hive was one of the main attractions of the gadget show at the 1958 meeting of the Eastern Apicultural Society. It was placed there by Benjamin M. Bosworth, Barrington, Rhode Island. The colony was started on foundation in the third week of May and the picture was taken on August 8th. As you can see it has developed quite rapidly.

Another exhibitor in the gadget show at the EAS meeting, Carl Browne demonstrates his swarm basket. Carl is a hobby beekeeper from Ashaway, Rhode Island.

XUM

Editorials

National Honey Week

THE LAST WEEK in October has been designated by our American Honey Institute as National Honey Week. This furnishes beekeepers and handlers of honey an opportunity to focus special attention on our product.

There are a number of different ways in which this can be done. Beekeepers who have a considerable amount of honey to sell and wish to dispose of it through local channels can place advertisements in local newspapers, calling attention to the virtues of honey and where it may be purchased. An "Eat Honey" sign in the front of the building where honey is to be sold seems essential. Live bee window displays in grocers' windows where honey is sold invariably cause people to stop and investigate.

Last, but not least, the use of honey recipe folders, counter cards and other printed matter put out by the American Honey Institute, Madison, Wisconsin, at a very nominal cost, can be used to advantage in promoting honey sales. Let's make National Honey Week a "honey" of a week.

What about Wintering Bees?

THIS QUESTION comes into the minds of beekeepers in the north, as winter approaches. Some winter out of doors with hives insulated against the cold weather, others winter in bee cellars and still others in the far north kill their bees off with Cyanogas in the fall, leaving enough honey in the single brood chamber to start a package of bees with queen the following spring.

During the years there has been some controversy concerning methods of packing bees wintered out of doors. Some believe in heavy packing, others use a moderate amount of packing, others wrap each hive in black building paper, and some winter in single wall hives with no added insulation.

The consensus seems to be that populous colonies of bees in the North with an ample amount of good quality stores, properly placed, each hive wrapped in black building paper will winter quite well. The black paper absorbs some of the sun's rays. It is an advantage to have a small opening near the top of each hive to help the bees expel any excess moisture that may accumulate during the cold winter months. The apiary should be located in a spot well sheltered from the prevailing winter winds, where there is proper air drainage.

It would appear that each beekeeper who has found a satisfactory method of wintering his bees should stick to this method, rather than experiment on too large a scale with other methods that he has not had a chance to try.

About Beekeepers' Meetings

AS WE GET OVER the country attending national, state, and county meetings we observe a few things about which we wish to comment. We hope our comments may be taken as constructive criticism, for the good of our industry.

The chairman of a meeting should be sufficiently well versed in Robert's "Rules of Order" to know how a meeting should be conducted. When introducing a speaker, instead of saying, "We will now hear from John Jones," the chairman should give the full name of the speaker, his address, his business or occupation and how he is connected with the beekeeping industry and other facts about the person that would give him a build-up. Unless a speaker receives the proper introduction it may be a little difficult for him to capture the attention and interest of the audience.

Occasionally there may be small groups of people on the fringe of the audience who persist in carrying on a conversation in an undertone which is likely to be distracting, not only to the speaker, but also to those who are trying to listen. The chairman should ask those who are causing the annoyance to please desist, or leave the room.

When programs are lengthy and crowded with speakers it is quite necessary that they be operated on scheduled time. Speakers should be told how much time they are to occupy and if some long-winded speaker overruns his time, the chairman should rise to the occasion and shut him off as diplomatically as possible.

At some meetings there is likely to be some person who enjoys hearing himself talk, who will interject prolonged remarks that are perhaps somewhat irrelevant to the subject being discussed. Such a person may not be on the program but speaks from the floor. The chairman should exercise his prerogative by terminating, as diplomatically as possible, any such irrelevant remarks.

Beekeeping is Different

FOR THE FOLLOWING we must give crédit to the late George S. Demuth, former Editor of Gleanings from 1920 to 1934.

"Those of us who keep bees or perhaps have them keep us, may be so close to the business that we fail to appreciate as we should how different beekeeping is from any other business under the sun.

Someone has said that the only way one can honestly gain a living by stealing is to keep bees. In one sense this is true. Bees, being industrious little creatures, pay little attention to line fences or the ownership of land but fly freely over neighboring fields gathering nectar from other people's flowers and plants, carrying it into the hives to make into honey which enriches the owner of the bees.

Just what is this nectar the bees steal from the neighboring farms? The chemist says it is sugar and water. He explains further that the sugar is a carbohydrate, so called because it is composed of carbon, hydrogen and oxygen.

Who owns the carbon and water from which the nectar is elaborated? The carbon is taken from the air where it exists in the form of carbon dioxide; the water is carried to the farm by the wind from oceans, rivers, lakes, and ponds.

The elements from which honey is made also disregard line fences and land ownership. At least the ownership would be difficult to establish.

The production of nectar does not deplete the soil. The beekeeper takes nothing from the soil. When he ships his crop of honey to market he is shipping material derived from air and water and the resources of the community from which the honey came are not depleted by its removal.

Moreover, when bees take the nectar from plants they render a service to the owner of the farms on which the plants grow which is of greater value, measured by human standards, than the value of the nectar. It has been said that bees render a pollination service to more than 50 farm crops and the value of bees in pollinating these crops is being recognized today as never before."

And so, beekeeping is actually different. Those who are engaged in the keeping of bees, either for pleasure or profit, cannot help but be thrilled by the nature of the business.

B & Z Library

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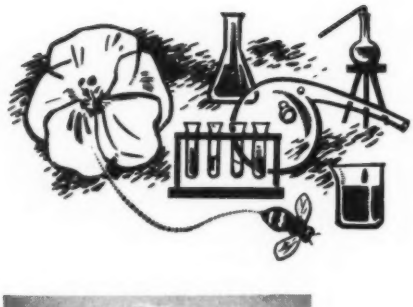

Research Review

By DR. ROGER A. MORSE

Research Editor of Gleanings and Ass't. Prof. of Apiculture Cornell Univ., Ithaca, N. Y.

Notes on Swarming:

AN EXCELLENT REVIEW of the literature on swarming has just appeared in the reference below. Though little new light is shed on the overall question several points are thoroughly discussed. The author reports that forcing some of the reported causes of swarming does not always result in swarming.

A summary of 16 points brings together some of the latest thoughts on the subject. The recent queen substance theory is also considered and it is suggested that a deficiency of the substance may bring about swarming or supersedure depending upon environmental conditions.

Swarming and migration of other species of honey bees is also considered. A bibliography of over 70 references covers the more important literature on the subject.

Simpson, J.
The factors which cause colonies of **Apis mellifera** to swarm. Insects Sociaux 5: 77-95. '58.

Research on the Behavior of Bumblebee Colonies:

A RECENT PAPER from Rothamsted, England, about bumblebees gives some interesting notes on behavior. It has been found that the aggressive guard bees in a colony have better developed ovaries than their sisters. It is suggested that the reason one bumblebee queen is so hostile to another is because of the advanced state of the ovaries. Strangely, bumblebee colonies do not have guard bees unless the colony is large enough so that nursing and foraging duties are being satisfactorily taken care of by others.

Odor has long been suspected of playing an important part in a honeybee colony and this paper indicates that there is a common odor amongst members of a bumblebee colony. Bumblebees thus appear to be able to recognize intruders by their scent alone. Individual bees may absorb strange scents so that they are attacked by members of their own colony.

Free, J. B.
The defence of bumblebee colonies. Behavior 12: 233-242. 1958.

Two New B.R.A. Publications:

THE BEE RESEARCH Association has announced a companion volume to **A Dictionary of Beekeeping Terms English-French-German-Dutch.** The new dictionary covers English-Italian-Spanish and with the two volumes some 1500 terms can be translated into five other languages.

A **Supplementary World List of Bee Research Workers** which is a companion volume to a similar work published in 1953 is also now available. The new list also carries a map showing the location of some three hundred bee research centers in the world.

The new dictionary is available for $2.25 and the new world list for 75¢. Orders should be sent to Hon. Publication Secretary, Bee Research Association, Ashcraft, Chelmsford Road, Ongar, Essex, England.

(Continued on page 615)

Live and Learn

by Propolis Pete

WILL SOME smart beekeeper with a scientific mind please invent a quick and accurate way to test honey for moisture content. I know that there already are gadgets that do this, but when you hear the price of them it sounds like somebody's license plate number.

The reason for this outburst is that I'd like to be able to test my honey without sending it to some laboratory and waiting two weeks for an answer. For the little that I would use it, a refractometer is way out of sight, yet there are times when it would be a big help to know just where I am heading, this year particularly, when the humidity has been up in the nineties more than it has been in the fifties.

Everybody who has ever tasted it (beekeepers don't count) says that my honey has the finest flavor of all. This year is exceptional for taste, but I am a bit on the dubious side when it comes to moisture content. A beekeeper tests viscosity by turning a jar upside down, and judging by the speed that the air bubble rises to the top, how much moisture is in the honey. I do it myself, but don't honestly think that it means a thing. Take a jar of honey out of the ice-box, and the bubble hardly goes up at all. Take a jar out of your pocket and the chances are that the bubble will go up so fast that you would think the "divil" himself was after it. And don't take the trouble to write in and tell me that honey shouldn't be kept in the ice-box. It shouldn't, but you'd be surprised to learn how many times it is.

When extracting what I laughingly call my honey crop this year, there were quite a few frames that were not capped over, but you could not shake honey out of them, even with quite a bit of force. Generally this means that the honey is ripe, but the bees either expect to use it up right away, or want to fill the cells a little fuller before capping it. In any event the moisture content is low enough so that it can be extracted without danger of fermentation. Some of these frames had the beginnings of cappings, so I put them through the extractor, but most of them went back to the bees. I still think that they were ripe enough to take, but have no way of proving it. So, I want a moisture content reader of some sort that can be used in the extracting room. This year it really hurt to send back those frames. So, will one of you fellows who know everything of a scientific nature, please help me out by inventing a moisture tester that you can use in the extracting room; one that will cost in the neighborhood of one ninety eight, with the decimal point after the one instead of the eight?

On the subject of extracting, I try to extract only from light combs. Dark heavy brood combs have their uses in the brood chamber, but in the supers I don't like them. Some years back I developed a system of culling that worked fine. When I reversed in the spring, I put an empty super on the bottom, thus making what had been the lower body the surplus super. You hardly ever found a bad comb in my colonies, unless it was over an excluder. But one winter, when melting down the cull combs, it dawned on me that that filthy mess that I was throwing away after boiling out the wax, was the container of my honey before it was extracted. After my stomach stopped doing flipovers, I gave up the idea of using old combs for surplus honey. Now I only use nice light combs, and the honey that happens to be in the culls goes back to the bees in the spring as feed. This system has its drawbacks, especially since I switched to shallow supers, but if I live long enough I'll find a way of culling the deep frames without losing anything.

To tell the truth, in recent years I have even begun to suspect the value of those old black brood combs. When you come right down to it, don't the bees seem to have more ambition and do better work when they have combs that are dark, but not black, in the brood chamber? Bees seem to like to draw foundation, or make comb. I have always found that when they are drawing comb they seldom think of swarming, other things being equal. Those very old combs are generally all gum-

(Continued on page 623)

FROM Foreign LANDS

Translated and Edited by ERIKA BARTH, San Antonio, Texas

Wonder Bee Does Not Sting:

MR. K. PESCHETZ, a beekeeper in Oberhausen-Sterkrade, has been successful in breeding a bee that is totally at home in highly industrialized areas, such as the Ruhr in Germany, and which also does not sting. Now beekeepers will no longer require veils, gloves and smokers.

According to reports of the Oberhausen Beekeepers' Association the new wonder bee, bred from cornica bees, does not depend on summer flowers and heather but is content with tree bloom, the only nectar-producer the mushrooming industrial Ruhr has to offer.

The 500 organized beekeepers in the Ruhr area, whose colonies have dwindled to a mere 2,500 hives, anticipate much from this new bee. Bee breeding has progressed in the Schlaeger Heather near Sterkrade-Nord.

Cuxhaven Newspaper, June 20, 1958.

From Beehive to Dog House:

L'APICOLTORE d'ITALIA shows the sorrowful ending of a beehive that became a dog house. The caption under the picture: This picture is dedicated to those that believe the love for keeping bees is spread by giving away hive bodies as door prizes!

L'Apicoltore d'Italia, March 1957.

Beekeepers Should Be Better Businessmen:

MANY WONDERFUL THINGS are said about beekeepers, however, one thing that does not apply is that they are good businessmen. Calculating the supply and demand of honey, plus operating costs is beyond their comprehension. Years in which the honey crop has been excellent prove this point only too well.

The honey has hardly been extracted when many (German) beekeepers believe that they will not be able to sell their whole crop, and start looking for a buyer at any price. Packers quickly recognize this situation and appear to be reluctant to buy. Prices fall and soon beekeepers are selling their honey below operating costs.

In no other branch of business would this be possible. It is a known fact that coffee has been dumped into the ocean, wheat has been burned and vegetables by the acre plowed under, in order to stabilize prices. Honey does not spoil, limitless amounts can be stored and held quietly in reserve for years of crop failure. No one seems to think of this. A record crop in many parts of the country means an actual business loss, because of the disinterest on the part of the beekeepers. A good honey crop should be a blessing but it is nothing of the kind.

In the Eifel (Germany), where they have had a very good honey crop, honey was sold to private customers at the same price asked for it five years ago! This is terrible!

All beekeepers' associations at every opportunity should urge their members not to throw away their precious product, but to hold out for the fair price so richly deserved.

Rheinische Bienenzeitung, September 1957.

Give Water Without Drowning Bee:

SUPPLYING WATER to bees has usually resulted in some drowned bees. Some suggest small floats but a new suggestion comes from England. There a British beekeeper soaks a sack in water and lays it in a sunny place and the bees soon find it. No more danger of drowning.

British Bee Journal, April 26, 1958.

Let these amusing witches ride their broomsticks to your party.—Photo courtesy Kellogg Company.

Be Sweet With Your Honey

MRS. BENJ. NIELSEN
Aurora, Nebraska

THIS IS THE MONTH when witches prepare to ride their broomsticks, goblins hold forth and football holds sway. A time for parties, informal get-to-gethers, and lots of fun! Tasty orange honey bread, coated with zippy cheese spreads; tangy apricot sherbet; crisp wafers, gayly frosted with glowing orange icing, give us a grand opportunity to be sweet with our honey and to give nature's golden sweet a real boost in the cookery field. Reinforced with honey-sweetened hot chocolate, mulled cider or piping hot honey-sweetened coffee. Heaps of colorful fruits and sprays of autumn leaves—it's so easy to give a gay party, or just impart a party air when friends drop in or the gang congregates after football games. Fun!

Honey Orange Bread

One egg, 1½ tablespoons grated orange rind, ¾ cup orange juice, 1 cup honey, 2 tablespoons soft shortening, 1 cup ready-to-eat bran cereal, 2½ cups sifted flour, 2½ teaspoons baking powder, ½ teaspoon soda and ½ teaspoon salt.

(Continued on page 631)

Hercules club (Aralia spinosa)

Let's Talk About HONEY PLANTS

HARVEY B. LOVELL
University of Louisville
Louisville, Kentucky

HERCULES CLUB or Devils' walking stick (**Aralia spinosa**). In a recent letter, W. A. Stephen, extension beekeeper for North Carolina writes that beekeepers in his state call Hercules club by the erroneous name of prickly ash which belongs to quite a different shrub. Mr. Stephen finds that the true prickly ash (**Xanthoxylum Clava-Herculis**) is very scarce in North Carolina and is apparently of little importance to beekeeping. He believes that all references to prickly ash in his state should be referred to as **Aralia spinosa.** George H. Rea (**Gleanings**, Sept. 1930) wrote that Hercules club is usually a heavy yielder in Pennsylvania. He describes the honey as bitter and not fit for table use, but adds that bees winter well on it. I have had a single plant growing in my yard for many years and bees always work it freely. The flower cluster is several feet across and contains many thousands of small white flowers, only a few of which are shown in the photograph.

Sundrops (Oenothera pilosella). William L. Hunter of Atwater, Ohio, sent me a nicely pressed specimen of this plant with this comment, "This summer a new plant appeared here which my bees seem to like very much. It grows a foot to fifteen inches high." This plant known as sundrops is often common in old fields where the grass is sparse. The tube is over one-half inch (15mm.) long, much too deep for a honeybee's tongue to penetrate. How-

ever, the eight stamens are exposed in the expanded part of the flower, and their pollen is easily accessible to bees. Your bees were evidently collecting this available pollen.

Thyme. We had just entered New York State after driving west through the Berkshires in Massachusetts when we came across a field that was purple with this low-growing mint. Bees were working the flowers in large numbers than any other kind of flower in the area. I had not previously known that thyme extended into New York State in this area. It is, of course, an important honey plant in parts of the Catskills and farther east in the Berkshire Hills of Massachusetts. The honey has a strong minty flavor and is a deep amber.

Bird's-foot trefoil was in bloom for hundreds of miles along the New York throughway, the first week of August. It had been cut down to the ground frequently by the mowing machines used on the center strip and the shoulders of this wide road. Sometimes the center strip was a solid mass of yellow flowers for miles. It is surprising that trefoil can stand such repeated cutting and yet spring back into bloom almost immediately. We observed it closely only in one place opposite a rest stop and found only a few honeybees working the bloom.

Wingstem or golden honey plant. I had a photograph of this excellent honey plant in the September issue. Around Louisville the first week of September, wingstem is bursting into bloom along creeks, roadsides and rich waste land and is the only honey plant which seems to be extensively worked by bees. Almost every cluster of flowers has one or more honeybees as well as many bumblebees, wasps, flies, and even beetles busy collecting the nectar. This is a much more important honey plant in the central states than is generally recognized.

Wild cucumber (Sicyos angulatus). This vine is blooming freely along the Ohio River and its tributaries. On September 5, I found a collection of the trailing vines climbing over some low bushes and the flowers were alive with insects, chiefly honeybees. The vines resemble those of the cultivated cucumber and reach a length of 25 feet or more. I have seen acres of wild cucumber in bloom along muddy banks of rivers in western Kentucky. It is also very common in southern Indiana where beekeepers sometimes obtain a nice fall surplus from it.

Spotted knapweed. Roscoe E. Johnson of Barre, Massachusetts, writes me as follows: "In the adjoining township of Hardwick there are at least two sizeable stands of this weed, apparently of considerable age. Both are mainly in pasture land, although spreading along the roadside. Cattle refuse to graze the plants, even while young, hence the permanence of a stand once it becomes established. Extensive flocks of small birds frequent the plants as soon as the first seeds ripen... The flowers are most attractive to bees, and the bloom lasts about five weeks in July and August. I have added your **Honey Plants Manual** to our library."

RESEARCH REVIEW

(Continued from page 610)

Controlling Honey Fermentation:

SOME VERY practical information for beekeepers on the subject of honey fermentation may be found in a recent paper by Prof. Martin of Michigan. Of interest to beekeepers operating hot rooms for drying honey in the comb is the fact that such rooms may be efficiently operated at relative humidities up to 40 per cent or even slightly higher.

It is also shown that honey of 17.4 per cent moisture will neither give off or absorb water at 58 per cent relative humidity. A graph of other equilibrium points is given and may prove useful in determining optimum storage conditions for honey. Moisture was absorbed readily through cell cappings.

Data is also given which indicates that honey can absorb moisture more rapidly than it can give it off. Yeast growth was found to be far greater at the surface of high moisture honey while just below the surface yeast growth took place much more slowly. This indicates that if supers of honey are allowed to absorb water before extracting, yeast count in the bottled honey will likely be high.

Martin, E. C.
Some aspects of hygroscopic properties and fermentation of honey. Bee World 39: 165-78. 1958.

OCTOBER

The Fourth Annual

The Fourth Annual Eastern Agicultural Society Meeting

The new EAS officers discuss plans of next year's meeting. They are from left to right: H. O. Boettcher, President; Mrs. Kenneth A. Manchester, Sec'y-Treas.; Henry B. Vail, Vice President.

THE FOURTH Annual Meeting of the Eastern Apicultural Society was a great success. The meeting was held on August 7, 8, and 9, at the University of Massachusetts in Amherst, Massachuset's.

All who attended found the campus of the University of Massachusetts with its rolling hills and farmlands a beautiful setting for the annual meeting. The Massachusetts Federation of Beekeepers' Associations which was the host for this meeting did everything possible to make the guests feel welcome and comfortable.

The meeting was called to order right on time by A. J. Baptiste, President. After the invocation and the welcome from the college officials, Arthur Dean, past president, gave the keynote address. He explained that EAS meetings have always been held at universities because the universities have adequate facilities to take care of the members and it also helps to remind the college officials of the importance of beekeeping. He also mentioned a number of things that he hoped the EAS could accomplish in the future. Among these were the development of a better observation hive, the starting of an EAS publication which would give a report of the meetings and act as a news letter, and foster more interest in beekeeping among youngsters.

Shannon McCune addresses the banquet audience.

Next, Dr. Redge Shuel of Ontario Agricultural College discussed the effects on nectar secretion caused by changing the ratio of major soil elements (nitrogen, phosphorous, potassium) and trace elements.

Although the program ran quite smoothly there were a number of last minute changes that had to be made due to the passing of Dr. Cecil Jamieson and the absence of James I. Hambleton, both of whom were scheduled to speak a number of times. The substitutions were made however, and the program was very complete.

Dr. Dyce spoke on processing of honey for market and discussed in some detail the Dyce process which he developed, for making creamy honey which has granulated, after being seeded with very fine crystals.

Next on the program came Mr. Gaston LeVitre, who spoke on how to sell honey by attracting attention, arousing interest, instilling conviction, creating desire and closing the sale.

At 1:30 on Friday afternoon there was a panel discussion moderated by W. K. Davis. The membes of the panel were W. W. Clarke, Extension Specialist, Pennsylvania State University; Dr. E. J. Anderson, Teacher of Beekeeping, Pennsylvania State University; P. J. Hewitt, Jr., Dr. M. V. Smith, Research Specialist; and John Buchanan. They all discussed needed developments in beekeeping. Since all the members of the panel represented different phases of beekeeping, they looked at the problem from different viewpoints. Some of the needed developments that they came up with were an increase in the number of leaders in beekeeping, to lower the price of equipment by producing it from less expensive materials and more research on different phases of beekeeping.

Then Charles Mraz gave the members a practical demonstration of producing and marketing cut comb honey. Mr. Mraz has developed many shortcuts through his many years of bee-

The panel on "Needed Developments in Beekeeping". Left to right: Dr. E. J. Anderson, Dr. M. V. Smith, John Buchanan, Bill Davis, P. J. Hewitt, and W. W. Clarke.

keeping which he passed on to the audience.

On Sunday morning Norman Gary, a graduate student from Cornell University substituted for Dr. Jamieson and spoke on queen rearing. Norman had some very interesting slides to explain his technique and equipment.

On Saturday afternoon Dr. E. J. Dyce of Cornell University substituted for J. I. Hambleton and showed his color slides of Central and South America.

That afternoon Dr. Roger Morse of Cornell University, demonstrated his method of wintering. Roger stated they had found that colonies on the average are 25 per cent stronger in the spring if they have been packed by this method.

Then came the business meeting which, for the most part, consisted of the election of officers. Elected were H. O. Boettcher of Amityville, Long Island, President; Henry B. Vail of Riverhead, Long Island, Vice president; and Mrs. Kenneth A. Manchester of Middlebury, Vermont, Secretary-Treasurer.

The annual banquet was held on Saturday evening at which Mr. A. J. Jones, who was the very capable and witty master of ceremonies, presented Dr. Frank Shaw with a silver plated hive tool in appreciation of the good job he did in planning the program and in general coordinating the meeting. The guest speaker was Shannon McCune, who is Provost of the University of Massachusetts, and a world traveler.

Next year's EAS Meeting will be held at Cornell University. From talking with next year's officers we are sure that the Fifth Annual Eastern Apicultural Society Meeting will be bigger and better than ever.

A few of the speakers. From left to right: Norman Gary, graduate student of Cornell University, Dr. Reginald Shuel, Ontario Agricultural College, and Arthur Dean, Past President of EAS.

XUM

Queenyard of Georgia queen and package bee shipper, Coastal Plain Area.

Georgian Beekeeping

Georgia is the largest combined package bee and honey producing state in the nation. Bees can be and are kept profitably in every county within this, the largest state east of the Mississippi River.

ROBERT H. GARDNER
McDonough, Ga.

IN ORDER to properly evaluate the beekeeping industry in Georgia, the state must be divided into three geographical sections.

1. The Mountain Area or northeastern part of the state at the lower tip of the Appalachian Mountains.
2. The Piedmont Plateau, or foothills, which would include most of the state.
3. The Coastal Plain or the southern portion of the state that borders on Florida and the Atlantic Ocean.

The Mountain Area of the state that borders on Tennessee, North and South Carolina supports a small amount of commercial beekeeping and some migratory operations in the Chattahoochee Forest. Most beekeepers in this area are permanent residents and have only a few hives which, favorably speaking, are of the patented type. Some of the beekeepers with fewer number of hives still use the old fashioned box or hollow tree bee gum which is still not a thing of the past in this state.

In this area of steep mountain slopes and narrow valley plains the sourwood tree thrives. With approximately 200 days a year without frost and from 52 to 72 inches of rainfall a year, this tree filled with lily of the valley like flowers, produces, under favorable conditions, enormous quantities of light, almost white colored honey. Sourwood honey is considered to be one of the finest honeys in the United States. It has a delightful aroma and taste and it will not granulate in pure form. Unfortunately very little sourwood honey gets out of the area. It is packaged and sold to the local residents and to tourists at the mountain inns.

Minor honey plants in this area are tulip poplar, black locust and sumac.

The Piedmont Plateau or what might be considered the marginal area of beekeeping in Georgia consists of steep rolling hills and valleys to the north smoothing out to gently rolling country toward the south and Coastal Plain.

In recent years agriculture has undergone a distinct change in this particular section of the state. Government crop controls have almost eliminated cotton and the small farm. Farm labor has moved to the urban areas where new industries are making good use of this manpower.

As a result of this change there are more large tracts of land being planted in legumes for grazing and to conserve land in the soil bank. That land not available or useless for grazing cattle is reverting to pine trees and weeds. Crimson clover and vetch now afford the beekeeper crops of 100 pounds or more to the hive. Tulip poplar, once the principal source of honey in this area is now of secondary importance. Other minor honey plants are sumac and aster in the fall months. The number of beekeepers and hives in this area is increasing due to the better honey crops and less likelihood of losses from cotton poisons.

Most of the commercial beekeeping done in Georgia is centered in the Coastal Plain area. The land is mostly level with sparse covering outside the pine forests and is blessed with an average of 260 days a year without frost. Within this section of Georgia

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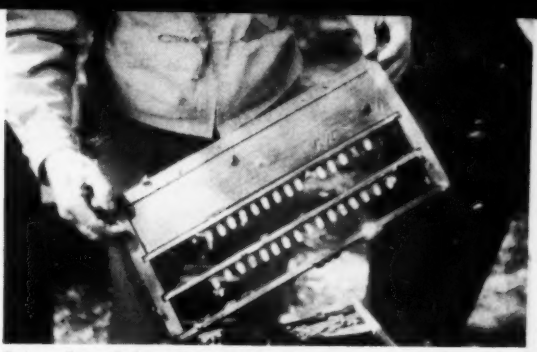

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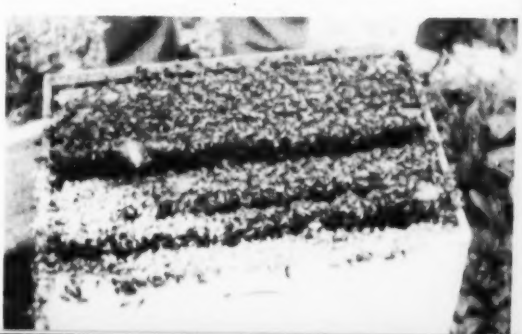
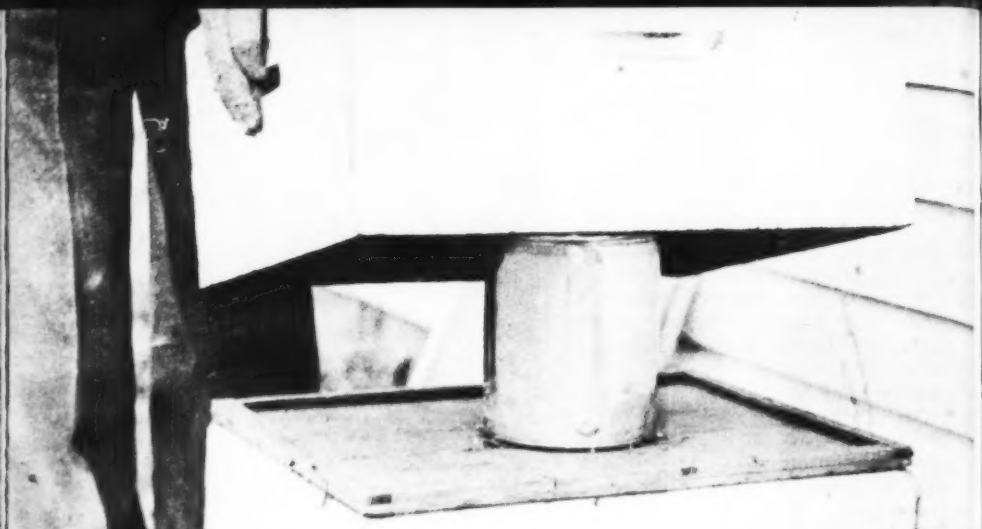
Swarm in Piedmont Plateau. Swarms sometimes will store more honey than overwintered colonies.



Strong colonies of young bees are necessary for queen cell building.



Don't Let Bees Starve! Feed Them if Necessary

M. J. DEYELL

SOME YEARS AGO when the majority of colonies of bees were kept in single-story brood chambers during the winter months, it was customary to feed bees in the fall to supply the needed winter stores. The bees were fed full combs of honey reserved for that purpose, or thick sugar syrup. It was usually necessary to do more feeding in the spring.

During the fall of 1922 The A. I. Root Company's bees, 1000 colonies in single story hives were fed 2000 10-pound pails of thick sugar syrup during October. We began experimenting with the food chamber hive in 1924 and later on used it for all of our bees, thus saving an enormous amount of expense.

Since the food chamber hive has come into general use, it is rarely if ever necessary to feed bees, that is, if the deep food chamber is used properly. Occasionally however, there may be a dearth of nectar which causes the bees to become short on stores, in which case it is necessary to feed.

It is possible to feed granulated sugar when the weather is reasonably mild. The sugar may be placed on the inner cover of a hive with the center block removed so that the bees may get up through the hole in the inner cover to get the sugar. Such feeding is done during the summer and early fall months, also during spring months. However, during the cold winter months when bees are clustered, they would not be able to break their cluster in order to get up through the hole in the inner covers to reach the sugar. This is true, more especially in the north where long cold spells of

weather prevail. Farther south bees do break their winter clusters quite frequently and could reach granulated sugar on inner covers. An inner cover filled with granulated sugar will hold about three pounds. Some place a shallow rim on the inner cover in order to increase the capacity for sugar.

Late Fall Feeding

For late fall feeding sugar syrup appears to be preferable. The syrup should be made of two parts of granulated sugar to one part of water, either by weight or measure. The water is heated until it comes almost to a boil, then the sugar is stirred in until all of the granules have dissolved.

The syrup is usually fed in a five or ten-pound friction top honey pail with the cover of the pail punctured with about 12 or 15 holes, with a two-penny nail. The pail of syrup is turned upside down over the opening in the inner cover where the bees can easily get the syrup. Strange as it may seem, the syrup will not flow through the holes in the cover any faster than the bees will take it. This is what may be called vacuum feeding.

When the weather is cool the syrup should be fed while it is warm or almost hot.

Some beekeepers place the pail of syrup directly over the top bars of the frames and if it is necessary to feed two or three pails of syrup, this method appears to be advantageous. An empty hive body is placed over the hive to protect the pail of syrup while the bees are taking it. The regular hive cover is placed on top.

Some have tried to feed sorghum molasses or corn syrup. We found during the first World War when granulated sugar was scarce that bees would not take sorghum molasses. It seems therefore that the best substitute for honey as a bee food is granulated sugar either cane or beet.

In some sections of the country where there may be a dearth of nectar the latter part of the season beekeepers may be tempted to chance on wintering their bees on short rations. We do hope that all beekeepers will make sure that their bees have plenty of stores for the coming winter and early spring and that feeding may be done if and when necessary.

GEORGIAN BEEKEEPING

(Continued from page 621)

there are approximately 50 queen rearers and package bee producers that ship bees to every part of the nation and Canada and most foreign countries. Backlot beekeepers are numerous and some of the commercial beekeepers number their hives in the thousands.

The largest amount of honey is produced in the area around Homerville, a small town in Clinch county. This is near the great Okefenokee Swamp that covers a wide area in that part of Georgia. Major honey plants are gallberry, titi, white holly, tupelo and palmetto. After the early honey flow is over near the swamp, the bees must be moved north to clover stands or to Florida for build-up on partridge pea and snowvine. The counties of greatest honey production in the Coastal Plain area are: Lowndes, Echols, Clinch, Lanier, Ware, Brantley, Pierce and Wayne.

It is estimated by the Department of Entomology that there are more than 215,000 hives of bees in Georgia with an average production of 30 pounds of honey. This low production figure is accounted for by the large number of hives used for package bee and queen production.

Foulbrood does not at present pose a problem for Georgia beekeepers. Rules and regulations concerning its control and eradication are rigidly enforced by the Georgia State Department of Entomology Inspectors. At present the disease rate is less than 0.4 percent of the total bees inspected.

NOTE: Appreciation for information in this article is expressed to W. E. Neville, State University Extension Service, Athens, Georgia, and to W. E. Leverette, Inspector for the Georgia State Department of Entomology, Atlanta, Georgia.

LIVE AND LEARN

(Continued from page 611)

med up with propolis too, and you have to cram them in to get ten to a hive body. It costs money to replace combs with foundation too often, but there must be a balance in there someplace.

In case you are wondering why I haven't mentioned the troubles I have been having with scattered brood, the answer is that I haven't heard up to this writing just what the matter is. One colony still has the weak brood, but the rest of them seem to have got over whatever ailed them.

Don't Tell Me Beekeeping Is Easy

Talking about bees
to lots of people
gave me the impression
that numbers of them
are convinced that
beekeeping is just about
the easiest and laziest
way to make money.
They reason that nature
supplies the flowers
and the bees carry the
honey into your hives.
So all you have to do
is to take the honey
away from the bees
and bank the money!

ROBERT J. WYNDHAM
Upland, California

A BEEKEEPER with any amount of experience knows better than that. He will tell you that it takes several years of experience and often of disappointments before a man can manage one or more beeyards efficiently enough to make beekeeping pay.

One of the reasons is the pitfalls which bee behavior, though predictable to a great extent, puts in the path of the beekeeper with little experience. Never one of the smartest beekeepers myself, it seems that in the course of the years I tumbled into every pitfall!

I'll never forget that one of the first colonies I owned—or did it own me?—needed a new queen. From a nearby commercial beekeeper I bought a young queen, wings clipped, in a cage. Following his instructions religiously, I killed the old queen and I inserted the queen cage according to the rules. A week later, checking if my new queen had been accepted, I found to my surprise a queen with **un**clipped wings on the job! Knowing that clipped wings don't grow back, I felt I was facing an inscrutable mystery. Much later I understood that when I killed the old lady, the bees had already superseded her: mother and daughter had been laying side by side. When the new queen with clipped wings emerged from her cage, the young laying queen had killed her off.

A few years and many puzzlers later, checking if my colonies were queenright, I found a colony which apparently had a drone-laying queen. I saw the brood pattern was different from that of laying workers. I tried to find the delinquent queen, but I couldn't spot her. I decided to go after her on my next visit. In the meantime, I felt it wouldn't hurt to give that colony a frame of open brood taken from a good colony. I figured there was a chance that the bees would build queen cells to supersede their defective queen. A week later I was back and I wanted to find out if the bees had started queen cells. To my surprise I found a few combs of brood which were evidently the work of a fine fertile young queen. The 64 dollar question seemed children's play compared to this one. Consulting an old hand in the business, I heard the explanation. The bees had noticed in time that their queen was failing, just before she became a drone

layer. At the time of my first inspection the colony had already superseded the drone-laying queen. But her replacement was not yet in business at the time, still being a virgin. In the time which elapsed between my first and second inspection she had mated and had gone to work.

Years later, when I was running a yard, I decided to kill the queen of a few colonies which were lagging far behind the average. It was late in spring and as all colonies had had plenty of stores, I felt there was no excuse for any queen to lay down on the job. To my amazement I found that three of the five weak colonies showed the beautiful brood pattern of vigorous young queens. What was more, the queens looked fine. Evidently the bees had already done the work for me: early in the season they had superseded their worn out queens.

The queens of the remaining two weak colonies I killed. Following up four weeks later, I found that both had eggs and larvae and I pronounced them queenright. A little later I found out that one of the two housed laying workers! From then on, I don't pronounce any colony queenright unless I find brood in all three stages. For only the sealed brood confirms that all is well.

In the course of some manipulations, such as swarm control or doctoring laying workers, I make colonies change or swap places to make the field force move from one colony to another. But in most cases I found that only a portion of the field force had moved in where I wanted it. This puzzled me for years until I found the reason. You move a three or four story colony from the front of the yard to the back. Then you put a one story colony in its place. The bees by force of habit returning to the old stand, now find a hive which looks entirely different. Many of them won't be fooled. They will try to move into another colony looking like the dwelling they know so well. Resolved: it is of importance that the hives which you make swap places look exactly alike.

And then there is the case which turns your hair prematurely gray. You kill a failing queen in a colony far below swarming strength. You expect the bees to raise a new queen. About 17 days later, tickled by curiosity, you're tempted to find out how they are making out. Then, as a sober and solid citizen, you get the shock of your career. First you find what you had expected: some sealed brood and a dozen queen cells. But those crazy bees have swarmed! The evidence is there for all to see: a half way torn down queen cell and only a few bees left. And that in a year when your other bees show hardly any inclination to swarm! Is there a bee psychiatrist in the house?

What to Do with Soured Honey

JOSEPH RUEL
Fifty Lakes, Minn.

A YEAR OR two ago I had about 75 pounds of soured honey in 15 five pound pails. It was a little too sour to eat, so I waited until honey season was about three-fourths over or in August of that year and I fed it all to one colony of bees that had two 6¼ inch supers left on the hive. There was some honey in the two supers but not enough for that colony to winter on.

I fed this honey in feeder cans that are sent with a three pound package of bees. I had to punch quite a few more holes in these cans in order to use them.

I took one five pound pail of the soured honey and added one pound of water to it in another vessel and stirred it up good and then fed it to the bees. I kept this up until all the 15 five pound pails were fed back.

I had no particular reason for adding the water, except I thought the bees would take it down easier and quicker. Maybe I could have fed it as it was.

After I had fed it all back I extracted some of it again to see how it tasted. I left most of it for the bees to winter on and they wintered well. The part I extracted tasted normal for the sourness was all gone.

If I have any more soured honey I will try it again as above. In the meantime if anyone has soured honey I hope they try it also or try a new method using some of the above details and let us know the results. No doubt, the above method can be improved upon. Anyhow, try it, and let us know.

XUM

A Talk To Beekeepers

Bees gathering nectar from milkweed blossoms.

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Don't underestimate the value of good combs, they are the foundation of your business.

PAUL STEFFEN

IT IS RAINING again as I sit here writing this evening. It would seem that "Old Man Weather" is as determined to make new records as we humans are at times.

I've seen a problem concerning farmers this year which I've never seen before. Wheat in this area sprouted in the heads of stalks which were still standing. It takes a lot of water to cause such a condition. We used to have this problem with shocked grain years ago when wet weather caused the grain in the cap sheaf to sprout. Remember the groan of the old threshing machine and the torn belts when those green ones went through?

This doesn't exactly pertain to beekeeping, but as you well know, upon agriculture depends beekeeping and vice versa. As a rule where the farmer prospers so does the beekeeper.

Sources

This year bees have been seen working on nearly every plant which bears a blossom. They worked milkweed with much vigor and many died for their efforts, trapped in the sticky pollen of the blossom. Incidentally, milkweed does yield surplus in some localities. The honey according to H. B. Lovell has a "characteristic but good" flavor.

I have also seen bees working wild carrot this summer. It would seem to me that when bees turn to wild carrot, other sources must be poor indeed.

Heartsease (or smartweed) has appeared in almost every wet spot, which includes both high and low ground this year. This weed may yield several hundred pounds of honey per colony in some parts of the country. The flavor of the honey is strong, to the point that it is rarely considered table-grade.

Foundation

In talking with many beekeepers of this area I have frequently been asked, "What kind of comb foundation is best?"

Of course it depends primarily upon what you wish to do with the comb after it is built on your new foundation.

First let's consider the 9⅛-inch deep frame, ordinarily used in the brood nest. A sheet of beeswax the size of this full depth frame will rarely stand the weight of honey and brood which it accumulates; especially under the 90 degree temperatures of the brood chamber. Therefore, I feel it best to use a vertically wired foundation. The corrugated vertical wires will go a long way to keep the foundation from sagging as the bees draw it out and fill it with honey. In my own frames I use three horizontal wires (the top 3) as well as wired foundation. I don't feel it necessary to use the bottom wire if the foundation is wired. However, if you are using unwired foundation, by all means install all four wires in the frames.

You may ask, "Why so much fuss and trouble over just a small piece of equipment?" The reason is one which few beginners realize in the first year of their venture with bees. When you nail up a frame and insert the foundation, if done properly you have assembled a piece of equipment which may easily last 25 or 30 years. There are many commercial beekeepers who have proven this fact.

The shallow frame offers a few more possibilities than does the full depth. But again your choice of foundation depends upon to what use you will put the combs. For extracting purposes I feel that the shallow frame should be set up with the wired foundation and two horizontal wires. True enough, the tendency for a shallow comb to stretch or break is not nearly so great as it is with the larger combs. But the extra support will greatly reduce breakage in the extractor and at the same time allow for faster handling of the combs.

Another use of the shallow frame is for chunk comb honey. This presents an entirely different problem. One of the features of fine comb honey is a tender midrib or foundation so that when you bite into the comb you get a mouthful of delicious honey and tender wax rather than tough wax and a little honey. Therefore it is best to use a very thin foundation made especially for that purpose. I have frequently seen beekeepers use the tough wired foundation for this purpose, then go to work and remove each wire from the comb before serving the honey.

Remember: Good foundation is what your business is built upon.

Inner Covers

Have you ever been puzzled by the many uses suggested for the inner cover? It seems that a few have the impression that the inner cover should remain on top of the brood chambers, with the supers placed over the inner-cover. There may be something to this, under certain conditions. However, I feel that such a maneuver should be left to those who have a sufficient reason, or just want to see what will happen. Ordinarily the results will not be very encouraging! The inner cover does, in fact, have a number of uses besides its use under the outer cover. Probably its best known use outside of what it was originally intended for is as an escape board. With a bee escape in the center hole, it is, when placed under the super, a very effective, economical, and safe way to free supers of bees. If left for about 48 hours you will have very few bees in your supers.

Another use, or you might say advantage which the inner cover provides, is a dead air space in the top of the hive, when a block is placed over the hole in the inner cover. This makes good insulation.

Outside of these and a few other "odds-and-ends", the inner cover's primary use is to keep the bees from sealing the heavy telescoping cover to the hive body and frames directly under it. When this happens it is extremely difficult to remove the outer cover and you very often break the siderails in your efforts to do so. However, with the inner cover in place it is a simple matter to remove the outer cover and pry the inner cover loose.

Under normal conditions the inner cover should be placed on the hive with the hollow or rail side up and the flat side down. The reason for this, of course, is because of the bee space of ⅜-inch. Ordinarily spacings between the wood parts of the bee hive of ⅜-inches are left free of propolis, whereas, any spacing of less than ⅜-inch (or too small for the bees to pass through comfortably) willl be filled with propolis. On the other hand, if the spacing is too wide, as it is when the inner cover is upside down, the bees take it for granted that there is enough room to store honey on the top-bars of the frames. Although I am leaving myself wide open to criticism by many beekeepers, I maintain that the foregoing theory on bee spacing explains the excessive amounts of burr combs between the top bars of the frames when nine frames are spaced evenly over a ten frame area in the brood chambers.

When the Garage Men Bowed Low

H. H. ROOT, Medina, Ohio

YEARS AGO, C. L. Sams, the Extension man in North Carolina, had arranged for me to speak at a series of county meetings throughout the state. At most of these meetings I showed colored motion pictures. We wound up at a state meeting in Raleigh and at a large garage we left the car. Mr. Sams said he would take the projector and the films and I could carry the screen—a six-foot affair rolled up in a long, black metal tube.

As we walked out of the garage, I was surprised to pass all the men of the garage, both black and white, lined up in a row, and all bowing very ceremoniously. Once before, as I got off a train in St. Louis, I was met by a big band and a large delegation of cheering people. I had never before been given such an ovation. However, I was quickly to learn that right behind

me was a candidate for the Presidency in the coming election. I looked around to see if some prominent political figure was also coming out of the garage but we were alone, Mr. Sams and I, so we were sharing the great honor.

When we got outside, I asked Mr. Sams if these garage folks were in the habit of greeting incoming strangers with so much formality. My answer was a big laugh. It seems that a week before, he had told every boy in that garage that he would be bringing in a "revenue" who would be equipped with a black Gatling gun. He said that it would go hard with any boy who had liquor on his breath and that if there were any trouble, it would be quieted at once and forever, with a machine gun. No doubt he told them all later the trick that he had played on them. Whether he could ever scare them again, is a question.

Those Athletic Parachute Jumpers

Mr. Sam's daughters no doubt inherited their father's love for fun. At any rate, when they were quite young ladies, they explained to their parents that they were helping each Sunday afternoon at some church affair. Now it happened that every Sunday all that summer, there was also an attraction designed to bring people into town. At a given signal, a balloon would rise, carrying two girls, each equipped with a parachute. When the balloon reached the proper height and had been carried a little outside the city, the girls would jump and float down.

In the evening when their daughters came back from the "church festival", the family would discuss the balloon ascensions and the parachute jumps, condemning the whole affair. It was not until the summer was nearly over that the shocked parents discovered, that the parachute jumpers were their own daughters, who were, in this manner, earning enough and more, for complete, new wardrobes.

I Carried the Luggage

In those days, we put on many a transferring demonstration, at each point, drumming and smoking a colony of bees out of a log hive, cutting out the combs, (the best of them) and transferring them to modern frames. Since we often made this demonstration several times a day, I got to wearing corduroy riding trousers and leather puttees. In the lobby of a hotel, with the hilarious extension man looking on, a fat man mistook me for the bus-driver and ordered me to carry his bags outside to the bus. As often as I saw him, in later years, Mr. Sams never failed to ask whether I was still driving a bus.

My Ruined Pictures

One day having taken some two dozen pictures I decided to develop them myself, right at the hotel. I was using a 5 x 7 camera, so the negatives were relatively large. After development and fixing, I observed with satisfaction that the negatives were brilliant. Because Mr. Sams and several beekeepers were coming to my room for a visit, I turned on the cold water in the bathub and put in the two dozen negatives to wash. A half hour later, I excused myself from the conference, went to the bathroom, only to find two dozen pieces of clear film and a bathtub full of hot "ink". The taps were marked wrong and when I thought I had turned on the cold water, I had really turned on the hot. Since that time, whenever I'm washing negatives in a strange place I make sure that the water keeps running cold.

Solution to the September Cross-word Puzzle

Asked & Answered

Inducing Bees to Cluster in Convenient Place

Q. Is there any decoy or scent that I can use to induce swarms to cluster on small trees instead of going to the top of large trees?

A. No. At least, nothing that can be depended upon. If a swarm clusters on a lower limb and is hived, a swarm issuing within the next half hour may cluster at the same place, probably owing to the scent left by the previous swarm or attracted by some straggling bees. A much better way to handle swarms is to clip the queens before swarming time (preferably during fruit bloom); then when the swarm issues, cage the queen, put the cage in a shady place, move the old hive away and put the new one in its place; then thrust the cage containing the queen into the entrance of the new hive and wait for the swarm to return and hive itself. In this case if the swarm clusters in the top of a tall tree, the beekeeper still has control and only needs to wait until the bees discover the queen is not with them and return.

Closing Entrances While Plowing Garden

Q. Would any harm result from closing the entrance of a colony of bees with a wire screen long enough in the morning to plow a garden adjacent to the colony?

A. It will not harm the colony to any extent to close the entrance long enough to plow the garden. Care should be taken to provide ample ventilation so that the colony will not smother. If the colony is very strong it may be advisable to take off the cover and put a moving screen on top of the hive. This should be done the evening before so that all that is necessary the next morning is to lift the cover and insert the screen in the entrance.

To Make Honey Vinegar

Q. Will you kindly tell me what specific gravity honey and water mixed should test to make a good vinegar, or how high an egg should float to make the proper test?

A. Some of the old formulas that have been used successfully in making honey vinegar recommended five parts of water to one part of honey by weight as the proper density for the solution. It should be strong enough to float an egg so that just a small spot will appear above the surface. In a bulletin on honey vinegar published by the Michigan Agricultural Experiment Station is the following formula for making honey vinegar: Strained or extracted honey, 40 to 45 pounds; water 30 gallons; potassium tartrate, 2 ounces; ammonium phosphate, 2 ounces.

Laws Relating to Keeping Bees in Cities

Q. Can the rules of a city in any way forbid keeping bees within the city limits provided proper care is taken of them?

A. There have been a number of court decisions in regard to keeping bees within towns or cities. The courts have held that the city can not enforce an ordinance prohibiting the keeping of bees within the city limits, declaring that bees are not in themselves a nuisance although in particular cases they become such. If the bees are properly cared for so that they are not a nuisance they can be kept in cities and towns so far as the legal aspect is concerned. However, great care should be taken to prevent trouble or criticism. In some cases it is well to locate the hives in the attic of the dwelling. In such cases, inquisitive neighbors need not know that they are there, since if properly located and cared for they may never notice them.

Variations in the Markings of Italian Bees

Q. Perhaps you can enlighten me on a perplexing point regarding the color variations of Italian bees, especially as to the difference between three-bands and leather-colored. I have had bees of several shades. I have some showing four or five bands of light yellow, in fact, having the whole abdomen yellow except the tip. No doubt these are properly goldens. All the others show at least three bands indicating pure Italian stock but in some the bands seem deeper brown or less noticeable giving the effect of a much darker bee. Just how are these variations correctly described?

A. There is considerable variation in the color markings of Italian bees. The first Italians that came to this country came from northern Italy. These bees have from two to three bands. Some of the darker Italians show only two bands where the lighter colors of the imported stock show three bands. The yellow is dark almost brown. Bees that came originally from southern Italy are lighter in color.

MONTHLY HONEY REPORT

(Continued from page 581)

specialists at the Department of Entomology, New York State College of Agriculture, Ithaca, New York. Either Dr. E. J. Dyce or Dr. Roger Morse will be glad to help.

Our reporters feel that honey prices will run about one cent per pound under last year. Wise beekeepers will place their honey under loan rather than give it away at low prices which ultimately demoralize the market. As of last June their was more honey under loan than for the same period in the previous year. Contact the local office of the Commodity Stabilization Service or your County Agent for details. Both are listed in your telephone directory.

Honey prices vary throughout the country with the west coast showing the lowest at 10½ to 12 cents for white honey and 9 to 9½ cents for amber honeys. The market gets stronger for white honey in the East but it is interesting to note that the prices paid for amber honeys is much the same throughout the country. Although comb honey varies from $8.40 to $10.80 per case the market for this fine food is settling around $9.00. This price is in effect in spite of the small comb honty crop. Possibly the first cold weather will help to bring some life to a now listless honey market.

DO BEES THINK?

(Continued from page 605)

on him before he got into his bonnet, and drive him away.

But we are not bees; and bees do not think. So we beekeepers are safe, because God did not give bees the power to think. Instead He made bees the servants of man and we can thank Him for it.

Thus instinct takes the place of the power to think. This instinct is absolutely necessary in bees, for without it our bees would glide around all day, sunbathing and taking things easy, instead of working for the benefit of all the other bees and of us. And all bees would soon die off. Instinct is, in reality, God watching over them; for God is very interested in all His creatures.

BE SWEET WITH YOUR HONEY

(Continued from page 613)

Beat together in mixing bowl, egg, orange rind, orange juice, honey and shortening. Add bran and let stand about 10 minutes. Sift together flour, baking powder, soda and salt. Add to first mixture, stirring only until combined. Spread in greased 9½ x 5¼-inch loaf pan. Bake in slow oven, 325 degrees F. about 1 hour and 10 minutes. Let stand until cold before slicing. Yield: 1 loaf.

Honey Apricot Sherbet

Two small cans apricot nectar, ½ cup honey, 4 teaspoons lemon juice, ¼ teaspoon salt, 2 tablespoons honey and 4 stiff-beaten egg whites.

Combine apricot nectar, honey, lemon juice and salt. Blend well. Freeze to a mush in tray of automatic refrigerator. Beat egg whites until stiff, then beat honey in gradually. Fold into frozen mixture. Freeze stirring once. Serves 10.

Honey Wafers

Two cups sifted flour, 1 teaspoon baking soda, ½ teaspoon cinnamon, ¼ teaspoon ground cloves, ¼ teaspoon allspice, ½ cup bran cereal, ½ cup soft butter and ½ cup honey.

Sift together flour, soda and spices. Crush bran slightly. Blend butter and honey. Add sifted dry ingredients and bran, mixing thoroughly. Chill. Roll chilled dough out on lightly-floured board to about 1/16-inch in thickness. Cut into fancy shapes with floured cookie cutters or with cardboard patterns. Place on greased baking sheets. Bake in moderate oven, 350 degrees F. about 10 minutes. Yield: About 5 dozen cookies. Ice with confectioners sugar icing tinted with orange food coloring.

A sticky zipper can be made to work like a charm by rubbing both sides of it with beeswax. Soap or auto wax also will serve in an emergency but for lasting repair use beeswax.

"Honey is good for all ages—Good through the ages." — From Members' Bulletin of American Honey Institute.

NEWS and EVENTS

ENTOMOLOGICAL SOCIETY OF AMERICA
December 1, 2, 3, and 4
Salt Lake City, Utah

The Sixth Annual Meeting of the Entomological Society of America will be held at the Hotel Utah in Salt Lake City, Utah, on December 1, 2, 3, and 4. A paper-reading session of the Apiculture Subsection will be held during this period. In addition, a symposium led by F. E. Todd of the Bee Culture Section, Agricultural Research Service, USDA, on "Methods of Testing the Effects of Insecticides on Honeybees" is planned as a high spot on the apiculture program.

A number of papers contributing to an outstanding program covering as many phases as possible of apiculture is sought by the Apiculture Subsection.

Titles and brief abstracts should be sent as soon as possible to: Dr. L. D. Anderson, Chairman, Program Committee, Department of Entomology, Citrus Experiment Station, Riverside, California.—W. C. Rothenbuler, Chairman, M. D. Levin, Secretary, Apiculture Subsection.

VERMONT
Beekeepers' Association

At the annual summer meeting of the Vermont Beekeepers' Association, on August 23, 1958, the following new officers were elected: President, Enoch Tompkins, Burlington; Vice President, Oskar Stapel, Williston; Secretary, Wm. J. Damour, Bennington; and Treasurer, Byron E. Eastman, Bradford.—Clyde N. Wood, Past Secretary

MIDWESTERN
Beekeepers' Association
Kansas City, Mo.
October 12, 1958

The Midwestern Beekeepers' Association will meet at the home of Mr. and Mrs. Joseph F. Maher, 9400 Kemper Road, Kansas City, Missouri at 2:30 P.M., Sunday, October 12, 1958. Packaging and Marketing will be the topics for discussion. Everyone welcome.—Carroll L. Barrett, Sec.

THE BIGGEST THING THIS SIDE OF TEXAS—THE AMERICAN BEEKEEPING FEDERATION CONVENTION, Jan. 28-30, 1959 and THE NATIONAL HONEY SHOW, Feb. 3-7.
Tampa, Florida

It will be the first time that these two events have been brought together in one city. You will have a chance to attend both of these events and enjoy a few days in Florida.

The convention will be held in the Hotel HILLSBORO in downtown Tampa, only a few blocks from the Florida State Fair Grounds where the National Honey Show will be held the first week of the Fair. The second week of the Fair will be replaced by the Florida State Honey Show.

To have a real convention YOU will have to attend it, and to have a grand Honey Show we will need YOUR entry; Simple, isn't it?

More information on the Convention may be obtained from Mr. Robert Banker, Secretary, National Beekeeping Federation, Cannon Falls, Minn.

For details on the honey show you may write to the Florida State Fair,

Tampa, Florida or address Fred Oren, 2516 Silver Lake, Tampa 4, Florida.

FLORIDA
Beekeepers' Association
Fort Pierce, Florida
October 23-24

The annual meeting of the Florida Beekeepers' Association will be held October 23-24 at Shamrock Village Motel, Fort Pierce, Florida. A large attendance is anticipated. A cordial invitation to all.

MIDDLESEX COUNTY
MIDDLESEX COUNTY (MASS.)
Beekeepers' Association
Waltham Field Station
October 25th

The next meeting of the Middlesex County Beekeepers' Association (Mass.) will be held Saturday, October 25th at the Waltham Field Station with a pot-luck supper at 6:30 followed by a business meeting and program. The last outdoor meeting was held at the home of Dr. Anderson in Winchester. A demonstration of taking off honey with the use of carbolic acid was given. —Lolita Pamplin, Cor. Sec.

NORFOLK COUNTY (MASS.)
Beekeepers' Association
Walpole, Mass.
October 6, 1958

The next meeting of the Norfolk County Beekeepers' Association (Mass.) will be held October 6, 1958 at the Norfolk County Agricultural School, Walpole, Mass., at 7:30 p.m. The Club Hive will be given to a lucky member at this meeting. The election of officers will take place for the coming season. All come and enjoy the meeting and learn more about the Honeybee. —Edith L. Colpitts, Corres. Sec.

CONNECTICUT
Beekeepers' Association
Hartford, Conn.
September 27, 1958

The Connecticut Beekeepers' Association's fall meeting will be held the fourth Saturday, September 27, 1958, in the Y M C A, Hartford, Conn., located at the corner of Pearl and Jewel Streets. The meeting will start at 10:00 A.M. A special feature will be a honey cookery show under the management of Mrs. M. Louise Yates. Anyone who likes to cook and uses honey is welcome to participate in the show. Young boys and men are urged to take part.—Philemon J. Hewitt, Jr., Chairman of Publicity.

TEXAS
Beekeepers' Association
November 10 and 11
College Station
Texans Go Formal

The informal get-together of Texas Beekeepers at Cashion Cabin each year has been abandoned for a formal banquet in the Memorial Student Center. The banquet aand meeting of the Texas Beekeepers' Association will be held at College Station on November 10 and 11. More details will be published later.

KANSAS
Beekeepers' Association
Hillsboro, Kansas
October 4, 1958

The annual meeting of the Kansas State Beekeepers' Association will be held on Saturday, October 4, 1958, at Hillsboro, Kansas. Mr. E. P. Barkman, the president of the association, requests that each beekeeper take pictures of his honey processing plant operation for showing at the meeting. As has been announced before, the theme of the meeting is to be "Kansas Honey Houses".

Obituaries

WILLIAM T. GRAN, JR.

WILLIAM T. GRAN, JR., of Perrysburg, Ohio died September 3. He was a graduate of Perrysburg High School and a veteran of World War II. When he returned from the service he joined his father in the beekeeping business. He served as President of the Ohio State Beekeepers' Association. Mr. Gran was a member of the Grace E U B Church and served as scoutmaster of the Perrysburg Boy Scout Troop.

Surviving are his wife, Carolyn, and daughters, Candice, and Susan, also his parents, Mr. and Mrs. Wm. T. Gran of Perrysburg, and a brother Robert of Findlay, Ohio. Our industry can ill afford to lose such a talented young man.

Buy and Sell

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate: 18c per counted word, each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in by the 10th of the month, preceding publication.

HONEY FOR SALE

WE BUY AND SELL all varieties of honey. Any quantity. Write us for best prices obtainable. THE HUBBARD APIARIES, ONSTED, MICHIGAN.

IOWA honey, one can or truck loads. RUSSELL D. SMALLEY, BEAVER, IOWA.

CLOVER extracted honey in sixties. ABRAM BRUBAKER, RT. 2, LANCASTER, PA.

MICHIGAN'S FINEST WHITE CLOVER HONEY. New sixties. Fully ripened. You'll be pleased. Sample 20c. JOHN McColl, TECUMSEH, MICH.

TUPELO, wild flower or buckwheat in 60's. Honey candy. EN-R-G FOODS, INC., BOX 232, LANCASTER, PA.

MICHIGAN'S finest raspberry, basswood, clover comb honey, in 4 x 5 window cartoned sections. Deluxe extra fancy, $9.00; Extra fancy, $8.00; Fancy, $7.00; No. 1, $6.00; No. 2, $5.00 case. E. Z. QUICK WAY B FARMS, BOYNE FALLS, MICHIGAN.

FOR SALE—Clover honey in 60's. NORTH CENTRAL HONEY PRODUCERS LEAGUE, BARABOO, WISCONSIN.

FOR SALE—10 ton of white honey in new 60's, ready for table use. FOX VALLEY APIARIES, DE PERE, WIS.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTICE—We can not guarantee honey buyers' financial responsibility, and advise all beekeepers to sell for cash only or on C.O.D. terms except where the buyer has thoroughly established his credit with the seller.

WANTED—All grades of extracted honey. Send sample and price. DEER CREEK HONEY FARMS, LONDON, OHIO.

CASH FOR BEESWAX. Write as to quantity and we will quote price. MEUNCH-KREUZER CANDLE CO., INC., SYRACUSE, N. Y.

WANTED—White extracted or comb honey. Send sample. MILLERSPORT HONEY CO., MILLERSPORT, OHIO.

BEESWAX WANTED—Highest prices paid in cash or trade for bee supplies. THE A. I. ROOT COMPANY, MEDINA, OHIO; COUNCIL BLUFFS, IOWA; SAN ANTONIO, TEXAS.

WRITE FOR SHIPPING TAGS and quotations on rendered beeswax. We buy from one pound up and if you have over 25 pounds let us work it into foundation for you at a 25 per cent saving. WALTER T. KELLEY CO., CLARKSON, KY.

WANTED — Light amber clover, fall flowers, buckwheat and white clover. Send sample and lowest price. CLOVERDALE HONEY CO., FREDONIA, N. Y.

WANTED—Honey in 60 pound cans, also beeswax any quantity. L. E. ALLEN, TIPTON, MICH.

WANTED—Buckwheat and light amber honey. EASTERN FOOD PRODUCTS, 421 BEDFORD AVE., BROOKLYN, N. Y.

CASH for Amber and Buckwheat Honey. Best cash price for wax. HUBBARD, ONSTED, MICH.

WANTED, chunk comb and extracted honey. Mail sample and price. STOLLER HONEY FARMS, LATTY, OHIO.

WANTED — Comb and extracted honey. WM. MARCH, R. D. 3, BOX 27, MANTUA, OHIO.

WANTED—All grades of extracted honey, cans or carloads. Send sample and best price. Cash. Michigan Beekeepers, I have lots of empty 60's, take and fill them up and save the price of the cans. HONEYMOON PROD. CO., 39 E. HENRY ST., RIVER ROUGE 18, MICH.

We render cappings, old combs and buy your beeswax. Shipping tags sent on request.—M. H. CARY CORP., 219 WASHINGTON SQUARE, SYRACUSE 8, N. Y.

HONEY WANTED for bottling, bakers including buckwheat. All types, in tins or drums, trailer loads. Send samples representing each lot. ALSO ROYAL JELLY. Write CHAS. E. FARRIS CO., 99 HUDSON ST., N. Y. City. Established since 1910.

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WRITE FOR CATALOG—Quality Bee Supplies at factory prices. Prompt shipment. Satisfaction guaranteed. THE HUBBARD APIARIES, Manufacturers of Beekeepers' Supplies and Comb Foundation, ONSTED, MICHIGAN.

THE BIGGEST BEE SUPPLY Catalog published (64 pages) free for the asking. Listing many items not found in other catalogs. No agents—buy direct and save 20%. WALTER T. KELLEY CO., CLARKSON, KENTUCKY.

Makers of ROBINSON plain and WAVY-WIRED foundation. Also render and buy beeswax. Order direct from manufacturer and save dealer costs. Shipping tags free. WAX WORKERS, INC., ITHACA, N. Y.

QUEENBEE PAINTING OUTFITS, $1.50. INTERLOOKERS, $3.00 postpaid. SOUTHWICK APIARIES, WABAN, MASS.

FOR SALE—Two tube vacuum honey filler in good used condition suitable for a small packer. Write for details. SCHULTZ HONEY FARMS, RIPON, WIS.

FOR SALE—100 two-story, 10-frame colonies of bees, with deep supers. JOHN W. BYERLY, 41 N. MAIN, MECHANICSBURG, OHIO.

50 colonies with winter stores in two stories. Inspection certificate. GEORGE CARTER, 302 ASHBURTON, COLUMBUS, OHIO.

CARTONS 1400 lithographed jar caps with big bee, 63 mm size fits 2 pound economy and others, $13.00; shipping weight 44 lbs., carton 100, only $1.00; shipping weight 4 lbs. Big stock selling below cost. WALTER T. KELLEY CO., CLARKSON, KENTUCKY.

BEES AND QUEENS FOR SALE

We use all possible care in accepting advertisements but we cannot be held responsible in case disease occurs among bees sold or if dissatisfaction occurs. We suggest that prospective buyers ask for certificate of inspection as a matter of precaution.

3-band Italian and Carniolan queens, $1.00. LUTHER PICKETT, EFLAND, N. C.

GOOD OUTFIT located midwest 850 two story, 10-frame colonies, disease free. Equipment well-painted, good combs. Two deep supers each, excluders, extracting equipment, power loader. Health, reason for selling. WILBUR ELLSWORTH, TARKIO, MISSOURI.

CARNIOLAN and CAUCASIAN Bees for 1958. Booking queens. Each, $1.00; 2-pound bees with queen, $4.00. 3-pound bees with queen, $5.00. LEWIS & TILLERY BEE CO., RT. 3, BOX 251, GREENVILLE, ALABAMA.

QUEENS, QUEENS. Extra good workers and very gentle. Starline and our regular strain. Regular queens, $1.00 each, Starline, 1 to 25, $1.30; 25 to 100, $1.15; 100 up, $1.00 each. Orders shipped same day received. ALAMANCE BEE CO., GEO. E. CURTIS & SONS, GRAHAM, N. C.

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BEES FOR SALE—100 standard 10-frame colonies with supers. ALLEN ROBINSON, POCAHONTAS, ARKANSAS.

BEEKEEPING BUSINESS, bees, modern shop, 2000 supers, excellent location. W. A. WALKER, PORT AUSTIN, MICHIGAN.

FOR SALE—Complete package bee and queen outfit including locations. O. K. ANDERSON & SON, COFFEE SPRINGS, ALA.

SEEDS

HONEY PLANTS our specialty. Catalog on request. PELLETT GARDENS, ATLANTIC, IOWA.

MOUNTAIN GROWN seeds of Chapman honey plant or Rocky Mountain bee weed, 25 cents packet postpaid. BEEHAVEN, 811 FREEMAN, NORTHWEST, ALBUQUERQUE, NEW MEXICO.

WANTED

WANTED—Apiary or equipment in Michigan. Must be disease free. Write Box 813, Gleanings in Bee Culture, Medina, Ohio.

WANTED: To buy bee outfits and bee equipment in any area. We have buyers for outfits, regardless of size. SIOUX HONEY ASSOCIATION, Supply Dept., SIOUX CITY, IOWA.

WANTED—Bee outfit, also several hundred 10-frame supers with drawn combs, shallow or deep. Write what you have and price. GERALD HENDERSON, RT. 1, MACEDONIA, IOWA.

USED — Honey Filter, Tanks, and Pump Flash Heater. HUBBARD APIARIES, Manufacturers of Bee Supplies & Comb Foundation, ONSTED, MICH.

MISCELLANEOUS

BEES REMOVED from house or tree or hive without touching either house or bees. Bees will then move honey into hive. Save property, honey, and bees with my method. Send $2.00 for details. Satisfaction guaranteed. GEORGE HAWKINS, RT. 1, LAWSON, MO.

1958 edition of our 112-page book "HOW TO KEEP BEES AND SELL HONEY" contains over 175 clear, sharp pictures and drawings, explains in easy to read style all you need to know to make beekeeping pleasant and profitable. Includes hitherto secret information on how to build low cost hot box to liquefy ten 60-pound cans of granulated honey over night, how to prepare wax for market and fairs, and how to make creamed honey. 75¢ postpaid. WALTER T. KELLEY CO., CLARKSON, KY.

POLLINATION BUSINESS which will return, in three months, more than its cost. Buyer must take all. Inspection guaranteed. CLIFFORD WITT, BURLINGTON, N. J., Phone Dudley 6-4448.

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ROYAL JELLY in capsules (with added vitamins). Box of 30 with 25 mg. Royal Jelly, $2.00, retails for $4.00. Box of 30 with 50 mg. $3.00, retails for $6.00. Bottle of 100 new pack 50 mg. without vitamins, $7.50. PRAIRIE VIEW HONEY CO., 12303 12th ST., DETROIT 6, MICH.

ROYAL JELLY, box of 30 capsules, 25 mg. each, $3.75, 10 boxes, $18.75, 50 mg. box of 30 capsules, $6.00, 10 boxes, $30.00. Special pack 50 mgm. bottle of 100, $6.50, box of 30 capsules, $2.75. SUNNYBROOK HONEY FARMS, 13600 LIVERNOIS, DETROIT 38, MICHIGAN.

ROYAL JELLY BEAUTY CREAM in ¾-oz. jar, $1.25 to beekeepers, retails for $2.50; 1-oz. jar, $1.50 to beekeepers retails for $3.00; 2-oz. economy size, $2.00, retails for $4.00. PRAIRIE VIEW HONEY CO., 12303 TWELFTH ST., DETROIT 6, MICHIGAN.

MAGAZINES

THE SCOTTISH BEEKEEPER (The official organ of the Scottish Beekeepers' Association.) Scottish in character, international in appeal. Annual subscription $2 post free. Sample copy from ROBERT N. H. SKILLING, F.S.C.T., 87 KING STREET, KILMARNOCK, AYSHIRE.

Archiv fur Bienkunde, International journal for Bee Culture and beekeeping economics. Founded in the fall of 1918. Oldest economic bee journal in the world. Praised again and again for its decades of independent leadership through many endorsements and advice as a valuable source also for the practice. Classic. Yearly DM 5.50. Any aspiring beekeeping friend will receive a sample copy. BIENE-VERGLAG, GIELBACK, LINDAU, GERMANY.

BEE WORLD, the international journal of the Bee Research Association published monthly, contains the latest research reports on bees and beekeeping. With Apicultural Abstracts it costs $5.50 per annum, or $6.00 including membership of the Bee Research Association. Apicultural Abstracts only $4.50 per annum from the Hon. Subscription Secretary, Bee Research Association, 10 BARNETT WOOD LANE, ASHTEAD, SURREY, ENGLAND.

AFRICAN BEEKEEPING, successor to the S. A. Bee Journal, monthly, sub. 10/- per annum. THE EDITOR, P.O. Box 4, Bergvliet, C. P., South Africa.

Know interesting facts concerning the bees of India, about species of bees found in India only, through the INDIAN BEE JOURNAL, published from India in English. Annual Subscription $2.25, sample copy 40 cents. Old Volumes $2.50 per year. Obtainable thrrough The A. I. Root Company, Medina, Ohio, U.S.A. to whom the dollar might be remitted.

GOAT MILK—Healthful food, profitable business, learn how. Monthly magazine $2. yearly. DAIRY GOAT JOURNAL, COLUMBIA T3, MO.

DO YOU FIND it difficult to secure information about sheep and sheep ranching methods? The SHEEP AND GOAT RAISER reaches more sheepmen with more information on range sheep than any other magazine published. Subscription, $3.00. BOX 189, SAN ANGELO, TEXAS.

YORK'S QUALITY BRED QUEENS

Dadant's Improved STARLINES or YORK'S Quality Bred Italians
PLUS
First and Finest Caucasian type hybrid — DADANT'S MIDNITES

Quantity	1-24	25-99	100 up
Italians	$1.00	$ .90	$ .80
Starlines or Midnites	1.30	1.20	1.00

Clipped and marked 15c each additional
The Preference of Leading Honey Producers

Reg. U. S. Pat. Off.

YORK BEE COMPANY JESUP, GEORGIA
(The Universal Apiaries)
P. O. Box 300 412 W. Orange Street Phone GArden 7-4131

We do not have queens running out of our EARS, but we believe our supply is and will be sufficient. Experience proves that re-queening pays. See that every colony has a young queen this fall, while queens are more available and cheaper than in the spring.

PRICES
Remainder of Season as Follows:

	Island Hybrid	Reg. Italian
1-25	$1.30 ea.	$1.00 ea.
26-99	1.20 ea.	.90 ea.
100-up	1.15 ea.	.85 ea.

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QUEENS

Italians Caucasians
Nice large queens, 80c ea.
If air mail, ...85 ea.
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	Caucasian QUEENS	Midnite Hybrid QUEENS
1-24	$1.10	$1.35
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100 and up	.90	1.10

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Caucasian or Italian
QUEENS

Tops in quality, gentle and good honey producers.

Price

1 - 25	$1.00
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ITALIAN QUEENS

Good queens are always good crop insurance. For your summer and fall queen needs we offer you an outstanding strain of Three Band Italians and can furnish select young laying queens promptly on receipt of your order. Caged fresh from our yards and rushed to you Prepaid Air Mail.

Prices

1-9	$1.00 ea.	25-99	$ .80 ea.
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THE WILBANKS APIARIES Phone 239 Claxton, Georgia

BUY QUALITY QUEENS

	Dadant Starline Hybrids & Dadant Starline Hybrid Queens	Garon's 3-Banded Italians Garon's 3-Banded Italian Queens
1-24	$1.30	85¢
25-99	1.15	80¢
100-up	1.00	75¢

Upon request queens clipped or marked. Airmail postpaid.

Reg. U. S. Pat. Off.

GARON BEE CO. Donaldsonville, La.

JENSEN says:
"Requeening Time is Growing Short"

For best assurance of a successful "Next Year", be sure every colony goes into winter with a good young Queen "This Year". You will be delighted with queens of our rearing. Dadant "Starline Hybrids" or "Magnolia State" Italians. Prices as advertised in preceeding issue of Bee Journals. Highest Quality. Prompt Delivery. Clipped & Marked FREE.

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Keep this name in mind for your 1959 Caucasian Queens & Packages.
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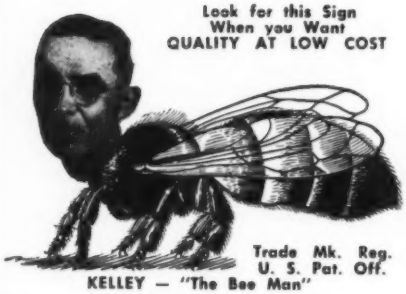

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